Volume II

Industry Statistics

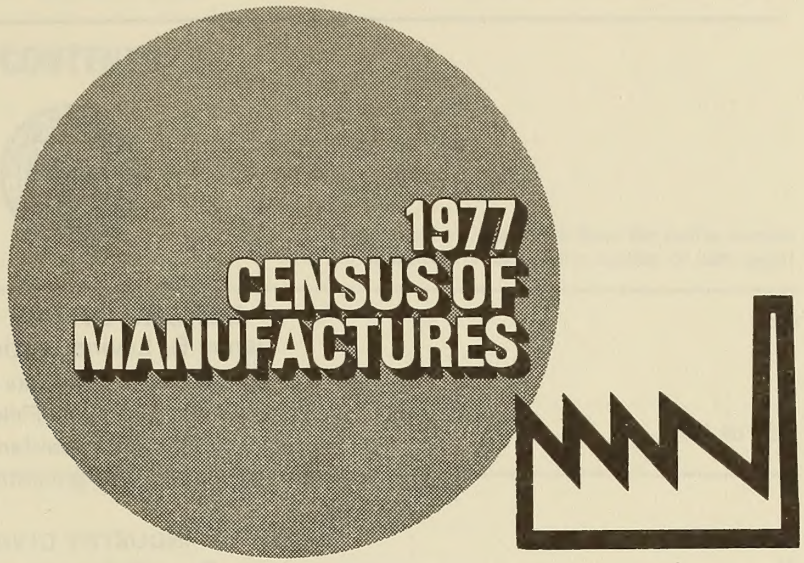
Part 2.
SIC Major Groups 27-34

1977 CENSUS OF MANUFACTURES



U. S. Department of Commerce
BUREAU OF THE CENSUS

Issued August 1981



Volume II

Industry Statistics

Part 2.
SIC Major Groups 27-34

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Data in this publication may differ slightly from the industry and area reports previously published. These differences are due to corrections which were made for minor errors identified after the industry and area reports were issued. This report reflects these corrections.

All errors identified in any phase of the review were carried to the computer file used to produce the final subject and special reports. Therefore, those reports represent the most accurate data available.

INTRODUCTION

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I. General Background

1. HISTORY OF THE ECONOMIC CENSUSES

General—The economic censuses provide a comprehensive statistical profile of a large segment of the national economy. This program includes censuses of manufactures, retail trade, wholesale trade, service industries, mineral industries, and construction industries. In 1977, these industries accounted for nearly 61 percent of the $1,894.5 billion of the gross domestic product and 70 percent of that originating in the private sector. The principal industry groups not covered were finance, insurance, and real estate; agriculture and forestry; communications; electric, gas, and sanitary services; and transportation. Limited information on transportation is collected, e.g., truck registration and distances travelled, and shipments of commodites by type of transport and distance shipped.

Uses and users of census data—The economic censuses are the primary source of facts about the structure and functioning of a major part of the economy. They are used extensively in compiling the benchmark measures of the national accounts. Census data also serve as weights or benchmarks for indexes of industrial production, productivity, and price; as well as many current surveys of industrial activity.

There is widespread use of the economic censuses, by the Government, in setting economic policy and monitoring economic programs. Manufacturers and distributors rely on census data to measure their potential geographic and industrial markets. The censuses provide the facts needed for economic forecasting; analysis of sales performance; the layout of sales territories; the allocation of advertising budgets; and the location of plants, warehouses, and stores. Trade and professional associations rely on census information to determine how their industries are changing; chambers of commerce and State and local governments depend on them to assess changes in the business structure in their areas. Business magazines and academic researchers rely on census facts as background for many of their articles.

Census reports are purchased by thousands of business and other users; census data are republished and widely circulated by trade associations, business journals, and the daily press; and census volumes are available in all the major public and college libraries.

History—The first economic type census covered the year 1809, when inquiries on manufacturing were included with the 1810 Census of Population. By modern standards, the results of this

pioneer effort would be considered unsatisfactory.[1] However, continued interest in the Nation's economic growth led to successive improvements in economic census-taking during the 19th century. By 1890, the statistical standards and procedures followed in censuses reached a full professional quality.

All of the decennial censuses from 1810 through 1940, with the exception of 1830, included questions on manufacturing. Inquiries on mining first appeared in 1840, and censuses of mineral industries were conducted decennially through 1940. Although some business-related data were collected in 1840, the first census of business was taken for the year 1929. This included retail trade, wholesale trade, and construction; beginning with 1933, selected service trades were covered. Dates of these and other economic censuses from 1809 are shown in table A.

Enterprise statistics—Through the history of the economic censuses, the unit of enumeration has been the establishment—i.e., a single physical location engaged in a specific line of business (for more discussion, see section 8). This unit is best suited for obtaining measures of direct output and input—labor, material, capital, etc. It is also best suited for providing refined industry and geographic tabulations. Statistics measuring overall income and balance sheet data are best collected at the company or enterprise level. In the early 19th century, these two business units were often identical. With the rise of large-scale operations, it became quite common for the large companies to operate separate manufacturing establishments in a number of diverse industries so that today the establishment and enterprise frequently are not the same. Enterprise measures and balance sheet data have typically been provided by the Internal Revenue Service (IRS) in its Statistics of Income and Federal Trade Commission (FTC) in its Quarterly Financial Report of Corporations.

The Bureau of the Census, as a result of the coordinated collection and tabulation of comparable data for several economic sectors in 1954, also developed an enterprise statistics

Table A. **Years Covered by U.S. Economic Censuses: 1809 to 1977**

Year covered	Manufactures	Mineral industries	Fisheries	Construction industries	Retail trade	Wholesale trade	Service industries[1]	Transportation[2]
1809	X	-	-	-	-	-	-	-
1819	X	-	-	-	-	-	-	-
1839	X	-	-	-	-	-	-	-
1840	-	X	-	-	-	-	-	-
1849	X	-	-	-	-	-	-	-
1850	-	X	-	-	-	-	-	-
1859	X	-	-	-	-	-	-	-
1860	-	X	-	-	-	-	-	-
1869	X	-	-	-	-	-	-	-
1870	-	X	-	-	-	-	-	-
1879	X	-	-	-	-	-	-	-
1880	-	X	X	-	-	-	-	-
1889	X	X	X	-	-	-	-	-
1899	X	-	-	-	-	-	-	-
1902	-	X	-	-	-	-	-	-
1904	X	-	-	-	-	-	-	-
1908	-	-	X	-	-	-	-	-
1909	X	X	-	-	-	-	-	-
1914	X	-	-	-	-	-	-	-
1919	X	X	-	-	-	-	-	-
1921	X	-	-	-	-	-	-	-
1923	X	-	-	-	-	-	-	-
1925	X	-	-	-	-	-	-	-
1927	X	-	-	-	-	-	-	-
1929	X	X	-	X	X	X	-	-
1931	X	-	-	-	-	-	-	-
1933	X	-	-	-	X	X	X	-
1935	X	X	-	X	X	X	X	-
1937	X	-	-	-	-	-	-	-
1939	X	X	-	X	X	X	X	-
1947	X	-	-	-	-	-	-	-
1848	-	-	-	-	X	X	X	-
1954	X	X	-	-	X	X	X	-
1958	X	X	-	-	X	X	X	-
1963	X	X	X	-	X	X	X	X
1967	X	X	X	X	X	X	X	X
1972	X	X	-	X	X	X	X	X
1977	X	X	-	X	X	X	X	X

- Not published. X Published.

[1]Actual coverage varied from census to census. [2]Limited information only.

[1] For an appraisal of early censuses of manufacturing, see Meyer H. Fishbein, The Censuses of Manufactures 1810-1890. National Archives Publication No. 63-22, June 1963, Government Printing Office.

program. This program relates census company-level data to data measuring the activities of individual operating units or establishments within the companies. Thus, a measurement of the integration and diversification of the American enterprise system became available. The enterprise statistics program also made it possible to link census establishment-based data on a modified basis to enterprise-based statistical systems such as the IRS's Statistics of Income for Corporations.

Legal provisions—The periodic economic censuses are required by law. Title 13 of the United States Code specifies the frequency of the censuses, the kinds of activities to be covered, the obligation to report, the penalties for failure to report, and the confidentiality of returns. It also authorizes the use of sampling techniques in conducting censuses. As amended in 1964, Title 13 requires the economic censuses to be taken at 5-year intervals, covering the years ending in "2" and "7." The next censuses will cover the year 1982 and will include the census of agriculture, which has been customarily conducted on a different time sequence from the other economic censuses. The pertinent portions of Title 13 are quoted in appendix E.

2. CHARACTERISTICS OF THE INDUSTRIAL SECTOR

General—Manufacturing is the largest sector of the economy. In 1977, manufacturing plants employed nearly 20 million persons, or 20 percent of the civilian labor force of 97.4 million. As shown in table B, gross domestic product (GDP) originating in manufacturing averages almost 24 percent of the total. Wholesale and retail trade combined was the next largest sector with 17 percent of the GDP.

Cyclical changes—The need for frequent and comprehensive statistics on manufacturing derives as much from its sensitivity to cyclical influences as from its relative size. Cyclical changes in income originating in manufacturing tend to be relatively larger than in the economy as a whole, as can be seen in the movement of national income originating in manufacturing from 1929 to 1933 to 1939 in table C.

Within manufacturing, durable goods industries accounted for about 60 percent of all manufactures during recent periods. This category tends to be more volatile than nondurable goods,

Table B. **Gross Domestic Product, by Industry, for Selected Years: 1947 to 1977**

Industry	1947	1954	1958	1963	1967	1972	1977
	Billions of dollars						
Gross national product[1]	233.1	366.8	449.7	596.7	799.6	1,185.9	1,918.0
Gross domestic product[1]	231.8	364.5	446.6	591.8	793.7	1,175.0	1,894.5
Manufacturing	66.2	106.4	123.8	167.4	222.3	292.5	462.4
Nondurable goods	32.7	45.6	54.1	69.8	88.7	119.3	185.3
Durable goods	33.5	60.8	69.7	97.6	133.6	173.2	276.6
Wholesale and retail trade	44.2	60.9	75.2	96.1	130.1	199.5	322.5
Government and government enterprises	19.3	36.9	47.1	65.9	96.3	155.4	237.2
Services	20.2	30.5	42.3	60.0	86.1	136.5	234.3
Finance, insurance, and real estate	23.2	46.5	62.4	85.3	114.2	169.8	274.0
Contract construction	9.1	17.2	21.0	27.4	37.5	59.4	86.7
Transportation	13.6	18.1	20.9	24.9	32.1	45.6	71.2
Agriculture, forestry, and fisheries	20.8	20.7	21.9	22.0	24.2	35.4	53.8
Electric, gas, and sanitary services	3.8	8.0	10.7	14.9	18.5	28.8	49.9
Communication	3.1	6.5	8.9	13.1	18.0	29.8	49.4
Mining	6.8	10.9	12.4	13.1	14.6	19.0	48.6
Rest of the world[1]	-	-	-	-	-	-	-
	Percent of gross domestic product						
Gross national product[1]	-	-	-	-	-	-	-
Gross domestic product[1]	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	28.7	29.2	27.7	28.3	28.0	25.0	24.4
Nondurable goods	14.2	12.5	12.1	11.8	11.2	10.2	9.8
Durable goods	14.5	16.7	15.6	16.5	16.8	14.8	14.6
Wholesale and retail trade	19.2	16.7	16.8	16.2	16.4	17.0	17.0
Government and government enterprises	8.4	10.1	10.5	11.1	12.1	13.3	12.5
Services	8.8	8.4	9.5	10.1	10.8	11.6	12.4
Finance, insurance, and real estate	10.1	12.8	14.0	14.4	14.4	14.5	14.6
Contract construction	4.0	4.7	4.7	4.6	4.7	5.1	4.6
Transportation	5.9	5.0	4.7	4.2	4.0	3.9	3.8
Agriculture, forestry, and fisheries	9.0	5.7	4.9	3.7	3.0	3.0	2.8
Electric, gas, and sanitary services	1.7	2.2	2.4	2.5	2.3	2.5	2.6
Communication	1.3	1.8	2.0	2.2	2.3	2.5	2.6
Mining	3.0	3.0	2.8	2.2	1.8	1.6	2.6
Rest of the world[1]	-	-	-	-	-	-	-

[1]Gross national product is the market value of goods and services produced by labor and property supplied by residents of the United States. Gross domestic product is the value of goods and services attributable to labor and property located within the United States. It equals GNP less the "Rest of the world" which is the net inflow of labor and property income from abroad.

generally accounting for a smaller percentage of all manufactures during periods of contraction and a larger percentage during periods of expansion. In the early thirties, for example, as shown in table C, durable goods manufacturing fell to only about one-third of the total.[2]

Geographic distribution—In the early and middle 19th century, manufacturing activity was concentrated in the Northeast. Over the past 130 years, as shown in table D, there has been a steady decline in the proportion accounted for by the Northeastern States. Industry expanded into the north central region in the

Table C. **Total National Income and Amounts Originating in Durable and Nondurable Manufactures for Selected Years: 1929 to 1977**

Year	Gross national product[1] (bil. dol.)	Gross domestic product[1] (bil. dol.)	National income without capital consumption adjustment[1] (bil. dol.)	National income originating in manufacturing			Manufacturing as a percent of national income (D÷C)	Durable goods industries as a percent of total manufacturing (F÷D)
				Total (bil. dol.)	Nondurable goods industries (bil. dol.)	Durable goods industries (bil. dol.)		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
1977	1,918.0	1,894.5	1,582.6	411.5	162.9	248.6	26	60
1976	1,718.0	1,697.5	1,413.0	366.6	149.9	216.7	26	59
1975	1,549.2	1,531.9	1,267.4	317.7	132.1	185.6	25	59
1974	1,434.2	1,414.4	1,176.8	301.4	120.6	180.8	26	60
1973	1,326.4	1,310.4	1,094.1	285.3	108.7	176.7	26	62
1972	1,185.9	1,175.0	969.9	252.3	98.3	154.0	26	61
1971	1,077.6	1,068.5	878.1	226.5	92.1	134.5	26	59
1970	992.7	985.4	814.8	215.1	87.7	127.4	26	59
1969	944.0	937.1	780.8	221.9	85.7	136.2	28	61
1968	873.4	866.7	722.7	212.7	81.6	129.4	31	59
1967	799.6	793.7	661.5	193.7	74.8	119.0	29	61
1966	756.0	750.3	627.0	189.7	72.2	117.5	30	62
1965	691.1	685.2	571.1	171.3	65.9	105.4	30	62
1964	637.7	632.3	524.2	154.2	61.3	93.2	29	60
1963	596.7	591.8	488.6	143.8	57.5	86.3	29	60
1962	565.0	560.5	463.4	136.1	55.1	81.0	29	60
1961	524.6	520.7	433.3	125.1	52.7	72.4	29	58
1960	506.5	502.9	420.8	125.1	51.9	73.2	30	59
1959	487.9	484.6	406.8	124.3	51.2	73.1	31	59
1958	449.7	446.6	373.4	107.9	45.8	62.1	29	58
1957	444.0	440.5	371.7	116.3	46.4	70.0	31	60
1956	421.7	418.5	355.7	113.2	46.3	66.9	32	59
1955	400.0	397.3	335.5	108.0	44.0	63.9	32	59
1954	366.8	364.5	307.2	94.7	39.7	55.0	31	58
1953	366.8	364.6	309.0	100.5	40.3	60.2	33	60
1952	348.0	345.7	295.5	92.6	38.3	54.3	31	59
1951	330.8	328.7	281.7	90.3	38.4	51.9	32	57
1950	286.5	284.8	244.0	76.3	33.4	42.9	31	56
1949	258.3	256.9	220.1	64.8	30.6	34.3	29	53
1948	259.5	257.9	226.7	68.8	32.9	35.9	30	52
1947	233.1	231.8	201.0	59.6	28.1	31.5	30	53
1943	192.1	191.6	171.5	58.3	19.6	38.6	34	66
1939	90.9	90.5	73.2	18.1	9.1	9.0	25	50
1935	72.5	72.1	57.6	13.4	7.3	6.1	23	46
1933	55.8	55.5	40.6	7.7	4.9	2.8	19	36
1932	58.3	57.9	43.1	7.3	5.2	2.1	17	29
1929	103.4	102.6	87.2	21.9	10.6	11.3	25	52

[1]Gross national product is the market value of goods and services produced by labor and property of residents of the United States. Gross domestic product is the value of goods and services produced within the United States. National income is gross national product less capital consumption allowances, indirect business taxes, and business transfers plus subsidies less surplus of government enterprises.

Source: Survey of Current Business.

[2] Based on national income rather than gross domestic product (GDP). Industry detail for GDP is available only from 1947; whereas, industry detail for national income is available from 1929 and encompasses the very depressed period of the 1930's.

Table D. **Employment in Manufacturing Establishments by Region: 1849 to 1977**

Year	United States	North-east	North Central	South	West
	Number of employees (thousands)				
1977	19,590	5,008	6,272	5,593	2,717
1972	19,029	5,306	6,135	5,221	2,367
1967	18,492	5,573	6,059	4,553	2,305
1963	16,235	5,190	5,239	3,780	2,025
1958	15,423	5,242	5,017	3,382	1,779
1947	14,294	5,429	5,109	2,710	1,054
1939	9,527	3,879	3,184	1,852	612
1929	10,198	4,246	3,516	1,758	675
1899	5,077	2,629	1,474	793	181
1849	957	696	110	146	4
	Percent of U.S. total				
1977	100	26	32	29	14
1972	100	28	32	27	13
1967	100	30	33	25	12
1963	100	32	32	23	13
1958	100	34	33	22	12
1947	100	38	36	19	7
1939	100	41	34	20	6
1929	100	42	35	17	7
1899	100	52	29	16	4
1849	100	73	12	15	-

Note: Detail may not add to totals because of independent rounding. 1849 data include hand and neighborhood industries, which were excluded from the censuses of manufactures beginning with 1899.

Source: Census of Manufactures.

latter part of the 19th century and, in more recent years, displayed a marked growth in the South and West.

Size distribution—Manufacturing activity tends to be characterized by relative large-scale operations. While there are many small manufacturing plants, they account for a relatively small part of the total output of goods. As shown in table E, over half of the plants covered in the 1977 Census of Manufactures were very small, employing less than 10 workers, but they accounted for less than 3 percent of total manufacturing activity as measured by value added by manufacture. (See appendix A for definition of value added).

Table E. **Number of Establishments and Value Added by Manufacture by Size of Establishment: 1977**

(Cumulative percentage)

Employment size class	Establishments	Value added by manufacture
All establishments	100.0	100.0
1 to 4 employees	40.1	1.0
1 to 9 employees	53.8	2.4
1 to 19 employees	67.6	5.2
1 to 49 employees	82.3	12.2
1 to 99 employees	89.9	20.5
1 to 249 employees	96.0	36.3
1 to 499 employees	98.3	51.0
1 to 999 employees	99.3	65.8
1 to 2,499 employees	99.8	80.1

3. CENSUS OF MANUFACTURES—BENCHMARK STATISTICS

In the farm-oriented economy of the early 19th century, the need for industrial statistics for setting government policy, except for tariffs and taxes, was slight. A few series on physical output of commodities originated either from private sources (flour, iron, steel, etc.) or as a byproduct of tax collection or other government functions (liquors, beer, tobacco products, etc.). The only sources of information on the growing manufacturing sector were the censuses of manufactures, then taken at 10-year intervals. Today, the need for industrial statistics has greatly increased so there is now a vast array of detailed information covering virtually every measurable aspect of industrial activity including employment; payrolls; hours worked; production; prices; inventories; orders; investment in structures, machinery, and equipment; and consumption of raw materials, fuels, and water. Many of these statistics are available at frequent intervals and very promptly after the close of the accounting period. Sophisticated indicators of economic change have also been developed, such as price and production indexes and the gross national product accounts that are published at monthly or quarterly intervals.

The census of manufactures, though conducted only at 5-year intervals, still plays an essential role since no other source measures the structure of the industrial sector in such a comprehensive and detailed way.

For every manufacturing plant with one employee or more, the census obtains data on its input of labor, materials, and capital; its output of products and services; its location; and the legal form of organization of the owning firm.[3]

A set of summary of general statistics are developed for each establishment (that is, total employment, payroll, number of production-worker hours and wages, cost of materials, value of shipments, inventories, capital expenditures, and value added by manufacture) and aggregated by industry, by area, by employment size of establishment, by degree of product specialization within plant, and by type of ownership. Reports are published on the detailed industrial characteristics of each State and large standard metropolitan statistical area (SMSA); and overall measures of manufacturing activity are shown at the county and individual city level provided the information can be published without compromising the confidentiality of individual company data. Since census legislation guarantees confidentiality to the firms that are required to report, it is frequently necessary to suppress some aggregates. Since a significant amount of industry detail cannot be published for the 3,140 counties and county equivalents in the United States, a special computer tape on Location of Manufacturing Plants was developed to provide a complete industry-county cross-section description of manufacturing. This tape includes the number of establishments in each of the 450 industries by county or county-equivalent area, by employment size. Comparison of this complete profile between censuses is used to study shifts in the geographic dispersion of industries and the industrial structure of local areas.

[3] Since 1967, some of this information for 120,000 small companies was not obtained directly but estimated from other government records. See the discussion of coverage of establishments in items 4 and 6.

The census of manufactures also facilitates the conduct of more frequent surveys on a sample basis. In fact, the present legislation specifying that censuses be conducted every 5 years authorizes an annual survey of manufactures (ASM) on a sample basis during the intervening years. The 5-year census provides the framework for selecting a new sample and the periodic universe levels to benchmark the sample estimates. The sample includes about one-fifth of all establishments. All large establishments are included in every sample; the smaller are selected proportionately to their size and are replaced at the end of each census. Thus, there is an annual updating of the census of manufactures in terms of broad measures of economic activity. The ASM contains the same basic measures of economic activity of the plant such as employment, payrolls, value of shipments, value added by manufacture, as does the census of manufactures, but obtains less detailed information on products, materials consumption, and equipment.[4]

The census of manufactures also is used to update other indicators of economic activity, especially the national income accounts. Census data on materials consumed and product output by industry are basic to the input-output matrix developed by the Bureau of Economic Analysis (BEA) for the manufacturing sector. The Federal Reserve Board's monthly Index of Industrial Production—a key indicator of current economic activity—relies on census industry and product data as benchmarks and weights to sum industries to higher levels of aggregation. The census and ASM also provide benchmarks for hundreds of monthly and quarterly surveys of commodity output conducted by the Bureau of the Census, other government agencies, and by manufacturers' associations.

4. INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Structure of the SIC System—The establishments in the census of manufactures are classified according to the SIC Manual. The SIC Manual covers the entire field of economic activities, subdivided as follows:

Industrial division	Title	Major groups
A	Agriculture, forestry, and fisheries	01-09
B	Mining	10-14
C	Contract construction	15-17
D	Manufacturing	20-39
E	Transportation, communication, electric, gas, and sanitary services	40-49
F	Wholesale and retail trade	50-59
G	Finance, insurance, and real estate	60-67
H	Services	70-89
I	Public administration	91-97
J	Nonclassifiable establishments	99

Below the major group level, the SIC provides for 3-digit groups and finally for 4-digit industries. To illustrate—

Division D—Manufacturing

Major Group. . . . . Food and kindred products
Industry group 202 . . . . . Dairy products
Industry 2023. . . . . Condensed and evaporated milk

The SIC system was developed to classify establishments as distinguished from similar systems used to classify companies or enterprises. An establishment is defined as a single physical location engaged in one of the industry categories of the SIC. (See pp. 1-9 for the application of this definition to collecting data in the economic censuses.)

This SIC system is the responsibility of an intragovernmental technical committee headed by the Office of Federal Statistical Policy and Standards, formerly part of the Office of Management and Budget, but transferred to the Department of Commerce in 1977. The system is used by all Federal Government agencies engaged in the classification of establishments. Many State and local governments and business concerns also organize their own records along SIC system lines in order to facilitate comparison with federal statistics.

The first SIC Manual was issued in 1939. For the manufacturing sector, the nucleus was the set of industry classifications developed over many years for use in the census of manufactures. A revised manual was issued for the manufacturing industries in 1945 and with minor modifications, used in the 1947 and the 1954 Censuses of Manufactures. In 1957, the SIC Manual was extensively revised for manufacturing industries and the historical comparability of some data was seriously affected. The introduction and appendixes to the 1958 census volumes discuss in detail this revision and its effects on census series. Only minor revisions of the SIC Manual were made between 1958 and 1967. The next extensive revision of the SIC Manual affecting the comparability of industry data was completed in 1972. These revisions and their impact on comparability appear in appendix C of the 1972 Census of Manufactures volumes.

Structure of the Manufacturing SIC System—For manufacturing, there are 20 2-digit SIC Major Groups (20 to 39) which are subdivided in 144 3-digit SIC Groups (201 to 399) and into 452 4-digit industries (2011 to 3999). The Bureau of the Census combined some small industries in order to publish data.

Most of the 452 manufacturing industries are defined in terms of specific groups of related products. Usually the products are made of similar materials and by similar processes and many are competitive but the SIC system does not necessarily bring together products which are close substitutes

[4] Since the ASM is based on a sample, the cross-classifications by industry and by area are fewer than in the census of manufactures. At the U.S. level, statistics are published in the annual survey for practically all of the 450 industries. However, at the SMSA level, statistics are published only for 3-digit and 2-digit industry groupings. At the county level, information is published for about 10 percent of the 3,140 counties and equivalent areas. These 300 odd counties are the larger ones in terms of manufacturing activity and account for about 80 percent of total manufacturing employment. Data for cities are shown for those cities having over 20,000 manufacturing employees.

in use and competitive in markets. In determining the boundaries of industries,[5] it is essential that each industry comprise a group of establishments that are highly specialized in making products that define the industry (primary products) and that a large proportion of all the products be made in establishments classified in the industry. While similarity of product is most frequently the determining factor in defining an industry, some industries are defined in terms of the processes or equipment used regardless of the final product of the establishment. (Example: Industry 3361, Aluminium Foundries (castings).) A small number of industries are basically defined by material used as well as final product of the plant. (Example: Industry 2521, Wood Office Furniture, and Industry 2522, Metal Office Furniture.)

There are wide differences among industries in their purity—i.e., the extent to which the establishments classified in the industry:

a. Account for the total production of commodities "primary" to the industry.
b. Produce products or services "belonging" to other industries (that is, secondary products).
c. Use similar materials or processes.

These variations are frequently construed to be shortcomings. However, these limitations in the classification structure arise from the inherent complexity of our economic system and from the variation in types of production that take place in individual establishments.

While the SIC system is the basis for aggregating census data, the data collected, in turn, provide the statistical basis for periodic critical evaluation of that classification system and its revision.[6]

No general-purpose system of industrial classification can satisfy all users of census data. Some business users are interested primarily in a narrow range of products which they and their competitors produce. Others are involved in a wide range of products that move through the same marketing channel. Others seek data relating to the consumers of one or more types of materials. Some are interested only in the data for highly specialized plants; others for plants producing a "full line" of products. Those studying productivity may require data for plants using the same techniques.

The large number of SIC industries provides the analyst with the "building blocks" for making useful approximations, even if specific data cannot be developed to resolve many of these problems. A single general-purpose system of classification can only partially satisfy these diverse needs; a point is soon reached at which the adaptation of a system to serve one use better will reduce its ability (sometimes disproportionately) to serve an alternative use.

Accordingly, users of data frequently regroup detailed SIC industries differently from the 2- and 3-digit SIC categories. The Federal Reserve Board for many years has made combinations to stress such characteristics of products as durable, nondurable, consumer, producer, finished, intermediate goods, etc. Other public and private agencies also recombine the detailed classes. The 4-digit industries are more susceptible to allocation to such categories than the 2-digit SIC groups.

Subindustries—The Bureau of the Census frequently has further classified some of the basic 4-digit SIC industries into "subindustries." Subindustries are employed where there are wide disparities in the input-output relationships (or operating ratios) of the plants in the industry because of differences in the degree of vertical integration, technology, methods of distribution, geographic location, types of materials used, etc. In about 61 manufacturing industries, subindustries were established for editing purposes and many were regarded as significant enough to be used for publication. For example, the bakery industry (SIC 2051) is subdivided into wholesale bakeries, chain-store bakeries, home-service bakeries, and retail multioutlet bakeries; and many apparel industries (major group 23) are subclassified into manufacturers, contractors, and jobbers.

To provide a further measurement of variations with 4-digit industries, the Bureau of the Census also subclassified establishments by the degree to which they produce the primary products or specific classes of primary products of the 4-digit industry into which they are classified. This is, in effect, a subindustry classification based on the degree of product specialization which is published in table 5a in the industry statistics chapters.

Definition of manufacturing—Manufacturing includes a wide range of activities as defined in the SIC Manual. Manufacturing is the mechanical or chemical transformation of inorganic or organic substances into new products. The assembly of component parts of products is also considered to be manufacturing if the resulting product is neither a structure nor other fixed improvement. These activities are usually carried on in plants, factories, or mills, which characteristically use power-driven machines and materials-handling equipment.

Manufacturing production is usually carried on for the wholesale market, for transfer to other plants of the same company, or to the order of industrial users. Typically, manufacturers do not sell directly to the household consumer, although some (for example, baking, milk bottling, etc.) sell, chiefly at retail, to household consumers through the mail, through house-to-house routes, or through salesmen. Some service-type activities (enameling, binding, platemaking, etc.) are included in manufacturing if they are performed primarily for trade; but are considered nonmanufacturing if they are performed primarily to the order of the household consumer. On the other hand, some manufacturing industries include business firms which perform only the entrepreneurial functions

[5] Frequently, business analysts and other data users look at a group of products from more than one point of view. For example, modern high-speed computers are classified as office machines. This describes the purpose of the product. In a physical sense, however, such computers would be described as electronic devices. Similarly, paper bags, wooden boxes, glass bottles, tin cans, and steel barrels may all be classified as containers, or they may be individually grouped with other products of similar materials, such as converted paper products, wood products, glass products, etc.

[6] See Industry Classification and Sector Measures of Industrial Production by James W. McKie, Bureau of the Census Working Paper No. 20, 1965, and Historical Comparability of Census of Manufactures Industries, 1929-1958 by Harold T. Goldstein, Bureau of the Census Working Paper No. 9, 1959.

of buying the materials and designing and marketing the product, but have the actual production done on contract (for example, apparel jobbers).

SIC classifies establishments—The SIC system is an establishment classification system, and the census of manufactures is conducted on an establishment basis. That is, a company with operations at more than one location is required to submit a report for each location. On the other hand, a company engaged in distinctly different lines of activity at one location is required to submit a separate report for each activity if the plant records permit such a separation and if the activities are substantial in size.

The requirement that distinct lines of activity at the same location be separately reported was applied only where the establishment produced and shipped significant amounts of products classified in different SIC industries. In widely varying degrees, many manufacturing establishments make products that fall into different SIC industries. Generally, the amounts involved are not significant enough to warrant the filing of separate reports, even if feasible. However, there are a number of locations at which large numbers of employees are engaged in activities defined in different industries of the SIC system. Frequently, companies organize their operations and their records separately for the diverse activities and report them as separate plants. When they do not do so on their own initiative, the Bureau of the Census requests separate reports if it appears that 100 or more employees are involved in each activity. For the most part, companies have cooperated and "split out" the different activities which would otherwise significantly distort the relationship of the industry and product statistics. Not infrequently, however, the two groups of products are made on the same production lines by many of the same employees and cannot be distinguished sufficiently in company records to provide establishment-type reporting.

The SIC system also recognizes special situations where otherwise separately classifiable activities frequently occur at one location. For example, the definition of Industry 2421, Sawmills and Planing Mills, recognizes that sawmills may include logging operations. Similarly, pulpmills operated in combination with papermills are included in one report.

Establishments included in census of manufactures—For the 1947 Census of Manufactures, the censuses have included only establishments with one employee or more. Prior to 1947, different criteria were used to determine if an establishment had to report in the census. In the censuses of 1921 through 1939, establishments with less than $5,000 value of products were excluded. For 1899 to 1919, the limit was $500. The change in the minimum-size criterion to an employment basis in 1947 did not appreciably affect the overall comparability of earlier census figures, except for the number of establishments.[7]

A sample survey of manufacturing plants with no paid employees was conducted in conjunction with the 1958 census. While there were nearly 52,000 establishments in this category in that year, they accounted for only about one-quarter of 1 percent of the total value of shipments of all manufacturing industries. The proportion was higher for certain industry groups such as lumber and wood products, and printing and publishing. Tabulation of IRS data for 1977 indicates that manufacturers with no paid employees continue to be of very minor importance. They contribute less than one half of 1 percent of the total value of shipments of all manufacturing industries.

Special treatment of very small establishments—Beginning with the 1967 census, an effort was made to relieve the very small establishments from the necessity of filing a census report. Approximately 120,000 small single-unit manufacturing firms identified as having less than 10 employees benefited from this procedure. Limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration (SSA) and the IRS were made available to the Bureau of the Census for use in the 1967, 1972, and 1977 economic censuses. (These special arrangements safeguarded the confidentiality of both tax and census records.) Data other than payrolls and sales for these small establishments were estimated from historical industry ratios. The effect on industry aggregates is slight in most industries; for manufacturing as a whole, these small "administrative records" account for only 1.2 percent of the value added. Detailed product and materials data for these small establishments were not estimated; the entire value of product shipments and cost of materials was imputed to a "not specified by kind" (n.s.k.) category. If these establishments had been included in the 1972 Census of Manufactures, they were assigned the industry classifications to which they had been coded. If they had started business later, they were coded on the basis of brief descriptions of the general activity of the establishment as reported to the SSA. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between manufacturing and nonmanufacturing activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the Bureau of the Census conducted a special classification survey in order to clarify the industry codes of some of the establishments in the adminstrative record file. All establishments without specific 4-digit codes and those where there could be significant misclassification between manufacturing and other sectors were sent such a questionnaire. Nevertheless, the total establishment counts in most industries should be viewed as approximations rather than precise measurements. The counts for establishments with 20 employees or more are far more reliable than the total number of establishments.

Auxiliary units—Manufacturing requires a wide range of diverse support activities. These activities include movement to the manufacturing plant, storage, the operation and maintenance of plant and equipment, the design of flow of work through the production process, and necessary arrangements for shipment of output to customers. Also included are a host of subsidiary activities associated with the operation of an establishment (for example, management and policy formation, product and market orientation, engineering and quality control,

[7] This point is discussed at greater length in the Introduction to the 1947 volumes.

recordkeeping and accounting, physical security of plant and equipment, and the like).

Support and subsidiary activities may be performed by personnel located at the manufacturing establishments or at a separate location serving one or more manufacturing locations of the same company. These separate locations are referred to as administrative offices and auxiliaries, where these activities are carried on at a different physical location or are performed for more than one plant, they are excluded from the figures for operating manufacturing establishments and are included in the data shown for administrative offices and auxiliaries. (See the description of the questionnaire used for these establishments, form NC-X6, in item 7.)

Border-line activities—The following types of activities, while having some of the characteristics usually found in manufacturing, are considered as nonmanufacturing and, therefore, are excluded from the census:

a. Processing on farms when the raw materials are grown on the farm and the manufacturing activities (poultry dressing, milk and butter production, logging, etc.) are on a small scale without extensive use of paid labor. Also custom milling, egg hatching, cotton ginning, and similar activities closely associated with agriculture are excluded.
b. Mineral preparation such as the crushing, screening, and concentrating of ores. However, mining performed as a secondary activity in conjunction with manufacturing is included in the census unless a separate report for the mining activity was filed; for example, stone and clay mining at cement, lime, and clay products plants.
c. Custom work to the individual order of household consumers. Examples are custom tailoring, woodworking, lettering on monuments, setting of diamonds, and the making of orthopedic appliances.
d. Repair and other service activities, except specified services performed "for the trade." Repair shops of railroads are also excluded.
e. Production of coke "for own use" by establishments owned by public utility companies.

Census establishment-based data measures manufacturing as primary activity. In the census of manufactures, no attempt is made to measure the extent of manufacturing at locations which are not primarily manufacturing plants, such as retail establishments which sell most of their products on the premises directly to household consumers (retail bakeries,[8] ice cream stores, etc.), or manufacturing by construction contractors at the site (for example, production of paving mixtures).

Conversely, it is not unusual for manufacturing establishments to engage also in some nonmanufacturing activities such as repair work, merchandising of products without further processing, and installation work. Ordinarily, these nonmanufacturing receipts are small in relation to the manufacturing activities and, therefore, it is not difficult to determine that the establishments should be included in the manufactures area. However, if the nonmanufacturing activities account for a significant proportion of total receipts of an establishment, the classification of that establishment into the appropriate major economic sector is more difficult.

In the economic censuses, an establishment engaged in a combination of manufacturing and merchandising is assigned either to the manufacturing or the trade industries depending on which of these activities was estimated to account for the larger share of its "value added" or "income produced." This criterion, even though based on approximation, was considered preferable to treating each dollar of receipts from each type of activity equally in determing the primary industry, since manufacturing requires considerably more worker-hours, salaries and wages, and capital inputs per dollar of receipts than either wholesaling or retailing. However, in classifying establishments engaged in manufacturing and also in mining, repair work, installation, construction, or other nonmanufacturing services, dollar receipts were used as the basis of classification because these activities require substantially comparable input per dollar of receipts.

Product codes—The SIC coding system is designed to describe industries and operates in such a way that the definitions become progressively narrower with successive additions of numerical digits. There are 20 very broad 2-digit groups, 144 3-digit groups, and 452 4-digit industries. Based on the SIC Manual, the Bureau of the Census has developed a product coding system along similar lines which contains about 1,500 5-digit product classes and approximately 13,000 individual 7-digit products. (See "the classification of products and materials" below.) The 7-digit products and 5-digit product classes are considered the primary products of the industry with the same first four digits as the product code. For example, the 7-digit product code number 2023212 refers to canned evaporated milk. The first five digits of this code number, 20232, refer to the "product class" canned milk, and the first four digits, 2023, refer to the industry in which these products are made (the condensed and evaporated milk industry). The same system is applied to the coding of materials. The first four digits of a material code (for example, the code number 024111, whole milk used as a material) describe the industry that produces it; e.g., 0241, agricultural industry, dairy farms.[9]

This SIC-based system is simpler than other systems for the coding of industrial products and materials used, since there is a direct numerical relationship between commodities and industries. Complications occur in the few SIC industries defined in terms of processes or equipment used as well as products made. As an example, women's sweaters are produced in knitting mills (industry 2253) and also in cut-and-sew shops (industry 2339). To retain the industry-of-origin concept, therefore, it is necessary to assign different product code numbers to women's sweaters, depending on where they are made.

The SIC-based commodity classification is used in the Bureau of the Census' entire industrial statistics program, including

[8] Separate data for retail bakeries with baking on the premises were included in the retail census publications.

[9] See tables 6a and 7 in volume II.

monthly, quarterly, and annual surveys, and also in the census of wholesale trade. The Bureau of the Census also publishes data on imports and exports in terms of SIC-based categories as well as the traditional Schedule B and TSUSA systems.[10]

Primary and secondary products of establishments shown in the industry statistics chapters—An establishment is classified in a particular industry if its production of the primary products of that industry exceeds in value its production of products of any other single industry. The industry code assigned to the establishment is derived from a summation of values for 7-digit product codes to their 4-digit industry and the selection of the largest 4-digit value as the establishment's industry classification. However, as mentioned earlier, the industry classification of an establishment may be determined not only by the products it makes but also by the processes employed or materials used in making those products.

While some establishments produce only the primary products of the industry in which they are classified, it rarely happens that all the establishments in an industry specialize to this extent. Therefore, the general statistics (employment, payrolls, inventories, value added by manufacture, total value of shipments, capital expenditures, etc.) shown for a industry (tables 1 to 4), encompass not only the primary activities of the establishments in that industry but also their secondary activities. On the other hand, the product statistics in tables 5a and 6a measure the total output of specific products whether they are produced by establishments classified in the same industry as the product or not. For this reason, in relating the general statistics of an industry, especially the industry total value of shipments (tables 1 to 4), to the product statistics (table 6), the composition of the industry's output as shown in tables 5b and 5c should be considered. Table 5c is a matrix table in which the columns break down industry shipments into primary and secondary products and "miscellaneous receipts." The rows of the table show the amount that each industry produced of a given product class.

The extent to which industry and product statistics may be matched with each other is measured by the two ratios shown in table 5b which are computed from table 5c. The first of the ratios, called the primary product specialization ratio, is the proportion of product shipments (both primary and secondary) of the industry made up of primary products. The second, defined as the coverage ratio, is the proportion of primary products shipped by the establishments classified in the industry to total shipments of such products by all manufacturing establishments.

Degrees of integration—In many industries, establishments use a wide variety of processes and materials to make the products of the industry. An industry classification based on end products may include establishments which are vertically integrated and those which put only the finishing touches on an already highly-fabricated purchased item. For example, in the refrigeration industry, there are some establishments that are almost completely integrated, producing the compressor and condensing unit, electric motor, and even the castings for those intermediate products, as well as the stamping of the case and the final assembly. In other plants, the condensing unit, the motor, and the case may be purchased and merely assembled into the finished product.

In some instances, nonintegrated plants have been placed in separate industry categories from the integrated plants. In many industries, the census provides separate statistics on departmental operations or on the production of intermediate commodities made and used in the producing plant. When an industry includes plants which ship a significant proportion of their output to other plants of the same company, separate figures are usually shown on the interplant transfers.

These differences in the integration of production processes, types of operations, and types of materials used, should be taken into account when relating the general items (employment, payrolls, value added, etc.) to the product and materials data. Where integrated operations are of consequence in an industry, that fact is pointed out in the explanatory text.

Industry code resistance—The production of many establishments is so evenly divided among two or more industry-determining product groups that the industry codes could change from year to year (industry codes can be based on less than half of the total value if there are three or more groups). In the ASM, plants had always been prevented from shifting back and forth among industries due to minor shifts in product mix in the years between censuses by the application of a "resistance formula" in assigning industry classifications. In census years, such resistence was not applied.

A resistance formula of the ASM type was first used in the 1963 Census of Manufactures. In the 1977 census, the formula was applied only to establishments included in the 1976 ASM sample panel with certainty (that is, included with a probability of "1"). In general, these certainty cases were establishments of companies with at least one manufacturing plant with 250 employees or more.

The formula recognizes the conflicting need to maintain continuity in the establishment composition of an industry to measure change and the need to allow establishments to be reclassified to measure the current composition of the industry.

In the 1977 census, the industry classification of a certainty establishment was allowed to change from that assigned in 1976 under one of the following conditions:

a. The value of the 1977 primary products constituted 60 percent or more of its total value of product shipments.

b. The value of the 1977 primary products, while less than 60 percent of the total, was at least twice the value of products which had determined the 1976 industry code.

c. The value of the 1977 primary products, while not meeting either of the two above conditions, had been the largest group of products for at least two years, i.e., exceeded the value of the 1975 primary industry's products in both 1977 and 1976 by at least 20 percent.

[10] Schedule B is the U.S. export classification while TSUSA is applied to imports.

Table F. **Value Added by Manufacture for Regions, Divisions, and States: 1977**

Region, division, and State	Value added by manufacture (million dollars)	United States, total (percent)	Region, division, and State	Value added by manufacture (million dollars)	United States, total (percent)
United States[1]	585,165.6	100.0	South Region--Con.		
Northeast Region	138,746.4	23.7	South Atlantic Division--Con.		
New England Division	35,586.9	6.1			
Maine	2,343.0	.4	West Virginia	3,880.2	.7
New Hampshire	2,174.7	.4	North Carolina	18,230.6	3.1
Vermont	1,050.1	.2	South Carolina	8,186.1	1.4
Massachusetts	16,348.6	2.8	Georgia	12,548.8	2.1
Rhode Island	2,736.6	.5	Florida	9,255.1	1.6
Connecticut	10,933.9	1.9			
			East South Central Division	36,234.3	6.1
Middle Atlantic Division	103,159.5	17.6	Kentucky	9,545.7	1.6
New York	44,289.8	7.6	Tennessee	12,663.4	2.2
New Jersey	22,852.8	3.9	Alabama	8,405.9	1.4
Pennsylvania	36,016.9	6.2	Mississippi	5,619.3	1.0
North Central Region	200,889.8	34.3	West South Central Division	52,112.5	8.9
East North Central Division	160,223.4	27.4	Arkansas	4,881.6	.8
Ohio	43,054.7	7.4	Louisiana	9,418.3	1.6
Indiana	22,717.6	3.9	Oklahoma	4,662.3	.8
Illinois	40,279.1	6.9	Texas	33,150.3	5.7
Michigan	37,566.0	6.4			
Wisconsin	16,606.0	2.9	West Region	84,910.6	14.5
			Mountain Division	13,620.4	2.3
West North Central Division	40,621.3	6.9	Montana	847.3	.1
Minnesota	9,605.2	1.6	Idaho	1,430.0	.2
Iowa	8,684.4	1.5	Wyoming	380.8	.1
Missouri	13,041.9	2.2	Colorado	4,471.8	.8
North Dakota	473.3	.1	New Mexico	733.5	.1
South Dakota	611.6	.1	Arizona	3,332.9	.6
Nebraska	2,867.1	.5	Utah	1,974.0	.3
Kansas	5,337.8	.9	Nevada	495.2	.1
South Region	160,581.7	27.4	Pacific Division	71,245.1	12.2
South Atlantic Division	72,304.3	12.4	Washington	8,955.0	1.5
Delaware	1,595.7	.3	Oregon	6,138.0	1.0
Maryland	7,115.6	1.2	California	54,862.4	9.4
District of Columbia	610.2	.1	Alaska	504.2	.1
Virginia	10,882.0	1.9	Hawaii	785.5	.1

[1]Total value added differs slightly from summation of the individual States since a few establishments that could not be accurately coded to a State are included in the United States total.

5. GEOGRAPHIC CLASSIFICATION

Census divisions and regions—The 1977 Census of Manufactures measures industrial activity at the State, county, city, and standard metropolitan statistical area levels. In prior censuses, similar information was also provided for the traditional nine geographic divisions (e.g., New England, Middle Atlantic, etc.) and the four geographic regions (northeast, south, north central, and west).

The presentation of data for individual industries and industry groups at all these geographic levels has always created serious problems in protecting the confidentiality of individual company data. Consequently, it has frequently been necessary to set priorities as to what will be published (see item 21). In the past, the preference was given to publishing data for the broad geographic regions over States leading to greater suppression of industry detail at the State level. In recent years, there has been increasing interest in State information in preference to the broader regions. As a result, the 1977 Census of Manufactures gave first precedence to publishing State figures. A decision was also made to forego publication of any divisional and regional totals. This was desirable to avoid suppressing industry detail in one State that could have been published, in order to protect data for another State in the same division, that had to be suppressed to preserve the confidentiality of a respondent's figures.

Thus, some summary tables for the nine geographic divisions and four regions that were published in prior censuses do not appear in Volume III, Area Statistics, of the 1977 Census of Manufactures. (See table F for 1977 value added data for regions, divisions, and States.)

Standard metropolitan statistical areas—In addition to the data for the legally constituted geographic units (States, counties, and cities), all manufacturing totals are shown for approximately 280 SMSA's.[11] In the 1977 tables, detail for 2-, 3-, and 4-digit industries is shown for an SMSA if data for individual companies would not be disclosed, and the industry had at least 250 manufacturing employees. These are the same criteria as those used in the 1972 census. In censuses prior to 1967, detail had not been shown for SMSA's with under 40,000 total manufacturing employment, and only industry group figures were shown for SMSA's with 40,000 to 190,000 employees.

SMSA's are integrated economic and social units with a large volume of daily travel and communication between the central city (having 50,000 or more population) and outlying parts of

[11] See appendix F for a description of each SMSA.

Table G. **The 50 Largest SMSA's Ranked by Value Added by Manufacture: 1977 and 1972**

Standard metropolitan statistical area	Number of employees (thousands)	Value added by manufacture (mil. dol.)	1977 rank	1972 rank	Standard metropolitan statistical area	Number of employees (thousands)	Value added by manufacture (mil. dol.)	1977 rank	1972 rank
Chicago, Ill.	884.3	27,542.1	1	1	Indianapolis, Ind.	124.0	3,922.2	27	26
Los Angeles-Long Beach, Calif.	825.5	24,701.8	2	2	Gary-Hammond-East Chicago, Ind.	98.2	3,517.6	28	30
New York, N.Y.-N.J.	796.6	19,878.3	3	3	Dayton, Ohio	106.5	3,261.0	29	29
Detroit, Mich.	564.6	18,149.9	4	4	Toledo, Ohio-Mich.	92.7	3,203.0	30	35
Philadelphia, Pa.-N.J.	451.8	13,429.6	5	5	Denver-Boulder, Colo.	106.4	3,068.5	31	36
Houston, Tex.	210.1	9,844.4	6	11	Providence-Warwick-Pawtucket, R.I.-Mass.	140.0	3,040.4	32	33
St. Louis, Mo-Ill.	248.7	8,342.0	7	8	Portland, Ore.-Wash.	99.4	2,951.6	33	40
Cleveland, Ohio	265.4	8,105.9	8	7	Columbus, Ohio	96.2	2,969.4	34	32
Newark, N.J.	255.5	7,870.8	9	6	New Brunswick-Perth Amboy-Sayreville, N.J.	80.5	2,945.2	35	31
Dallas-Fort Worth, Tex.	269.9	7,869.1	10	13	Allentown-Bethlehem-Easton, Pa.-N.J.	106.8	2,731.8	36	37
Boston, Mass.	267.7	7,469.1	11	9	Beaumont-Port Arthur-Orange, Tex.	38.3	2,626.3	37	(1)
San Francisco-Oakland, Calif.	193.3	6,817.2	12	14	Youngstown-Warren, Ohio	79.5	2,620.2	38	38
Rochester, N.Y.	144.4	6,732.4	13	10	Grand Rapids, Mich.	82.6	2,582.2	39	41
Pittsburgh, Pa.	239.7	6,478.4	14	12	Phoenix, Ariz.	84.6	2,558.6	40	44
Milwaukee, Wis.	204.1	6,408.8	15	16	Hartford, Conn.	87.0	2,317.0	41	43
Minneapolis-St. Paul Minn.-Wis.	216.9	6,408.0	16	15	San Diego, Calif.	79.1	2,173.9	42	49
San Jose, Calif.	181.4	6,205.7	17	22	Memphis, Tenn.-Ark.-Miss.	64.1	2,159.7	43	45
Cincinnati, Ohio-Ky.-Ind.	160.2	5,645.9	18	17	Greenville-Spartanburg, S.C.	104.8	2,129.7	44	42
Anaheim-Santa Ana-Garden Grove, Calif.	177.5	5,280.9	19	23	Baton Rouge, La.	24.1	2,075.5	45	(1)
Baltimore, Md.	165.9	5,169.5	20	18	Syracuse, N.Y.	57.8	2,017.7	46	48
Buffalo, N.Y.	140.3	4,735.5	21	19	Akron, Ohio	83.5	2,014.2	47	39
Louisville Ky.-Ind.	106.9	4,440.7	22	20	Richmond, Va.[2]	53.4	1,992.6	48	(1)
Nassau-Suffolk, N.Y.	155.9	4,370.3	23	25	Jersey City, N.J.	72.2	1,983.4	49	34
Atlanta, Ga.	128.7	4,222.8	24	27	Nashville-Davidson, Tenn.	80.5	1,935.3	50	(1)
Seattle-Everett, Wash.	131.9	4,161.0	25	28					
Kansas City, Mo.-Kans.	117.8	4,119.9	26	21					

Note: The Flint, Mich., SMSA, falls within the top 50 SMSA's but is excluded from this table to avoid disclosing figures for individual companies.

[1]Not in the top 50 SMSA's. [2]New Kent County added in 1977.

the area.[1,2] Each area (except in New England) consists of one whole county or more. An area may contain not only highly industrialized counties but also adjoining counties which, though primarily residential in character, contribute significantly to the industrial counties' labor force and are socially and economically integrated with the central city. These areas were defined by the Federal Committee on Standard Metropolitan Statistical Areas for general-purpose use in presenting economic and social data. In the New England States, similar integration criteria have been applied in defining SMSA's, but on a city and town basis, because towns are regarded as the significant unit in this region of the country.

The requirement that each SMSA consist of county units (except in New England) sometimes results in the inclusion in an area of a considerable amount of territory which would not ordinarily be considered "metropolitan," much less "industrial." It is recognized that metropolitan areas could be more accurately defined in terms of smaller area segments such as minor civil divisions, but the usefulness of areas so defined would be limited by the fact that many types of economic and social data are available only on a county basis. Periodically, the SMSA's are redefined. While some changes can be made at any time, if there are serious reasons, the major restructuring of SMSA's occur after each census of population is completed. Appendix F describes the current SMSA's and the changes since 1972.

Each SMSA is designated by the name of the principal city of the area. In addition to the name of the principal city, the areas title may include one or two additional city names.

Value added by manufacture in all SMSA's accounted for 79 percent of the U.S. total in 1977. The relative importance of the 50 largest SMSA's in 1977 and their rankings in the 1972 and 1967 censuses are shown in table G.

[1,2] Each SMSA must include either (1) a city with 50,000 or more inhabitants, or (2) a city having a population of at least 25,000 which (a) with the addition of the population of contiguous places has a population density of at least 1,000 persons per square mile; (b) constitutes, for general economic and social purposes, a single community with a combined population of at least 50,000; and (c) includes a total population of at least 75,000 in the county or counties in which the city and contiguous places are located.

Standard consolidated statistical areas (SCSA's)—In many highly urbanized areas of the country, SMSA's tend to border on one another. For some purpose, it was desirable to treat them as one geographic area and the SCSA's were developed. Each SCSA includes two or more contiguous SMSA's which meet specific criteria of size, urban character, integration, and contiguity of

urbanized areas. As with the SMSA's, the SCSA's are defined by the Federal Committee on SMSA's of the Office of Management and Budget. Their number has increased from two in the 1972 census to 13 for 1977. All manufacturing totals appear in table 4 of each State chapter. Data for 2-, 3-, and 4-digit industries with 250 manufacturing employees or more are published in table 6.

Industrial counties—In addition to industry statistics for SMSA's, table 7 of each State report presents data by county for each industry group (2- and 3-digit) and industry (4-digit) that had at least 450 manufacturing employees if it would not disclose figures reported by individual companies.

Cities with 450 manufacturing employees or more—Summary totals and industry detail at the 2-, 3-, and 4-digit levels are shown for individual cities with 450 manufacturing employees or more, provided the data do not disclose information for individual companies.

II. Methods

6. PLANNING AND PREPARATION

General—The Bureau of the Census has an obligation to meet public needs for timely and reliable information while holding costs and the burden on respondents to a minimum. During the planning stages of each economic census, the advice of trade and professional associations, Federal and State government agencies, individual companies, labor unions, and research and educational organizations is sought in an effort to reach both the users of data and the respondents who supply the basic figures. Simultaneously, the problems encountered in the previous censuses are studied, and improved methods of collection, processing, and tabulation are explored.

Mailing lists—Beginning with the 1954 economic censuses, the basic mailing lists have been obtained from IRS and SSA records. These records were also sampled to develop statistics for retail and service establishments with no employees. After the 1963 censuses, feasibility studies indicated that greater use could be made of the data in the IRS-SSA records. In the 1967 censuses, over 2,000,000 firms were exempted from the filing requirement, including 120,000 small manufacturers. Instead, census-type statistics for this group were developed from IRS-SSA records. In close cooperation with IRS and SSA, specific procedures for the use of individual tax returns that assured confidential treatment of them were developed and set forth in Executive Order No. 10911, dated January 17, 1961, and Treasury Decision No. 6547 of the same date. The records used were business income tax returns (IRS forms 1040C, 1065, 1120, and 1120S) and payroll tax returns (IRS form 941). The name and address, payrolls, and gross business receipts were obtained from these reports, in addition to the SIC industrial activity code assigned by SSA. Other census statistics for these small firms were imputed using industry average ratios of the data item to payrolls and sales.[13]

This procedure was repeated in the 1972 and 1977 economic censuses. In 1972, there was a concerted effort by the Bureau of the Census to improve the industry coding of the administrative record by mailing a nature-of-business inquiry to establishments whose industry codes could have been affected by the 1972 revision to the SIC Manual. A similar effort was made in 1977 to clarify the classification of firms which SSA had not been able to code precisely.

Content of questionnaires—As in previous censuses, the content of the 1977 questionnaires was developed in consultation with a large number of organizations and individuals, representing both the manufacturers who supply the data and those who use the statistics. Those consulted included Government agencies, individual firms, labor unions, the American Statistical Association, the American Economic Association, the American Marketing Association, the National Association of Manufacturers, and all National Manufacturers' Associations covering specific industries.

Many individual manufacturers and their trade associations were consulted about the content of the sections of the report forms dealing with the output of specific products. Drafts of the proposed 1977 product sections were circulated among 800 trade associations and about 4,000 manufacturing companies, both large and small. These draft report forms included new product detail reflecting suggestions received by the Bureau of the Census after the 1972 canvass. Small items (those valued at $7.5 million or less) were not retained in the list unless they were needed to assure correct classification of other products or were of strategic importance. A restriction was placed on proposals for additional detail; it was stipulated that the 1977 value of any new product category should exceed $20 million. The manufacturers were requested to comment specifically on the availability of the data requested in their ordinary records, and the appropriateness of the product descriptions and units of measure.

The thousands of comments and suggestions received in this clearance procedure and the decisions reached were forwarded to the Office of Federal Statistical Policy and Standards, along with the product sections developed by the Bureau of the Census as a result.

A final review was made by the Office of Federal Statistical Policy and Standards with the assistance of the Advisory Council on Federal Reports. The latter organization is a group of business executives such as controllers, economists, and market research directors, representing a cross section of all industries.

[13] As discussed elsewhere in this introduction, the amount of imputation introduced by this procedure was only about 1 percent of the overall totals.

7. REPORTING FORMS

A representative selection of the reporting forms used in the census is reproduced in appendix D. The users of each of them are discussed below.

General forms—These forms were used in the economic censuses, generally, either as companywide reports or as reports for establishments whose classification was not known precisely in advance of mailing.

NC-X1, Report of Company Organization—This companywide report was used prior to mailing the 1977 census questionnaires to develop the directory of establishments operated by multiunit companies. A more detailed account of their use is given in Section 8, The Mailing Lists.

NC-X2, Listing of Additional Establishments—This form was included with the census of manufactures forms mailed to multiestablishment companies in order to obtain a list of establishments that were acquired after the NC-X1A was filed. These additional plants were classified, added to the NC-X1A directory list, and mailed the appropriate 1977 economic censuses report forms. Plants under construction but not in operation were requested to report the value of construction put in place during 1977 and the total gross book value of assets in place at the end of the year.

NC-X3, General Schedule—This questionnaire was designed to obtain information from small companies for which the industry code available in the SSA records was not precise enough to indicate which one of the standard census questionnaires should be mailed. The information provided on form NC-X3 was used to classify these companies by industry and tabulate their data in the appropriate census.[14]

NC-X6, Administrative Offices or Auxiliary Establishments—Many multiunit companies maintain separate establishments to provide centralized administrative management, or other supporting services for other establishments of the same company, but not for the general public or other companies. They were asked to complete form NC-X6 for those establishments. The form contained questions on the approximate number of employees engaged in such functions as centralized administration, research and development, warehousing, and other auxiliary activities, and on the cost of research and development work performed by these nonmanufacturing establishments. The respondent was also asked to describe the industry activity of the operating establishments serviced by the centralized office or auxiliary unit reporting on form NC-X6.

NC-K1, Company Summary Report—Each multiunit company with 250 employees or more received a form NC-K1, Company Summary Report, in addition to a specific questionnaire for each establishment. The NC-K1 requested consolidated company totals for receipts, new capital expenditures, inventories, and fixed assets, which are published as part of the Bureau of the Census' Enterprise Statistics Program described in section I.

Census of manufactures forms—The questionnaire reproduced in the appendix, form MC-36B, is typical of the approximately 200 forms used for operating manufacturing establishments. Each of these forms was designed to be used for a specific group of industries. Since it is desirable to retain comparability in the annual survey of manufactures for establishments reporting in the sample, form MA-100 was substituted as the front sheet of the census form (e.g., MC-36B) to collect the information common to all industries. Whether or not form MA-100 was used, the inquiries on the 200 forms were identical except for the detailed questions on products shipped, materials used, and miscellaneous topics such as operations performed, equipment used, and delivery of products.

Short forms—Some industries include a large number of small- to medium-sized firms that account for a significant portion of the industry's output. Usually, these firms are not so small that the limited data in the administrative record files would meet the needs of the census. To obtain sufficient data, yet hold the reporting burden down for these smaller firms, special abbreviated short forms were designed. They obtain the key input and output statistics without the detail requested on the standard forms. A sample form is included in appendix D.

Annual survey of manufactures forms—Form MA-100 is the establishment report used in the ASM since 1949 (with modifications). The establishment's 1976 data were imprinted on the report form before mailing, thus aiding the respondent in following the instructions for the census. Item 11-A, "value of products shipped and other receipts," on form MA-100, corresponds to item 18 on the census forms such as MC-36B.

In years between censuses, the ASM collects data for broad classes of products; whereas, every 5 years, in the census, item 18 calls for information or individual product shipments.

Other related forms—Form CB-50F, Census of Distributive Trades Electrical Goods, which is reproduced in appendix D, is typical of the several forms used for wholesale establishments in the census of business. Some manufacturers operate their own wholesale establishments which the Bureau of the Census classifies as "manufacturers' sales branches and sales offices." The wholesale forms differed only in the kinds of products sold as listed in item 10. Item 18 provides the information needed to classify the establishment as a sales branch or sales office.

MC-171, Department of Defense Establishments, and MC-D4, Penal Institutions—These forms were used to collect information on government-owned and government-operated manufacturing establishments. They were used for two types of establishments:

[14] The use of form NC-X3 is also discussed in item B, Mailing Lists.

a. Manufacturing facilities owned and operated by the Department of Defense.
b. Prison industries (Federal, District of Columbia, and State).

The data were prepared with the cooperation of the Department of Defense, the Department of Justice, and the District of Columbia and State prison systems. For Department of Defense installations, information was provided on employment, worker-hours, payrolls, cost, and value of work done, by industry group and by State. For prison industries, however, only product data were requested. The data are presented in a special report included in volume I and are not included in the totals for operating manufacturing establishments.

8. MAILING LISTS

General—As discussed in item 6, the list of respondents for 1977 was obtained from IRS-SSA records. Since the IRS-SSA lists consist essentially of the names and addresses of companies rather than establishments,[15] it was necessary to follow separate procedures for multiunit companies (those operating at more than one location).

The precanvass—Multiunit companies were required to file at least one establishment report[16] covering each location. In order to mail the appropriate questionnaires, it was necessary to determine the type of activity at each location operated by multiestablishment companies. The Bureau of the Census has conducted an annual update of its directory of establishments operated by large companies in which Report of Company Organization (form NC-X1)[17] is mailed each year to multiunit companies.

All of these forms consist of a report on company affiliation and a list of the domestic establishments operated by the company. The company's establishments as identified in census records are prelisted and the respondents are asked to correct this list. They are also asked to describe new establishments not prelisted and indicate their approximate size.

Large multiunit companies are segregated for special handling because of possible overlaps and duplication. Many of these companies are active in retail and wholesale trade as well as in manufacturing. The reporting instructions are reviewed in discussions with officials of the accounting departments of many of these firms to make certain that the procedure is understood and the establishments are properly described on form NC-X1.

Single-unit companies—The mailing lists for single-unit companies (those operating at only one location) were developed from an initial control file assembled from IRS and SSA records. Out-of-scope companies (those whose activities were not to be surveyed in the economic censuses) and those identified as multiunits in the multiunit directory were removed. A special survey of out-of-scope companies with more than 50 employees was conducted, in some industries, to make certain they should not be included in the census. Some names were added to the mailing list as a result. Single units with over 150 employees were mailed form NC-X1 to determine if they were multiunits.

The final step was to identify the small companies which were not to be mailed because census-type statistics were to be developed from administrative records. The remaining records constituted the mailing lists for single-unit companies.

General schedule—While these lists generally contained adequate industry information to determine the proper form for mailing, a number of the records did not have precise industry information associated with them. Form NC-X3, General Schedule, which is reproduced in appendix D was mailed to these companies. Since it was assumed that these companies were quite small, only a few key figures were requested. The completed reports were coded and included in the tabulations. If form NC-X3 indicated that the company was actually large, it was later requested to file one or more of the appropriate standard questionnaires.

9. COVERAGE AND ACCURACY

Since the list of companies obtained from IRS and SSA records was considered to be complete, no field coverage check was conducted. The precanvass and other special procedures for multiunit companies described in item 8, Mailing Lists, and item 11, Data Collection, were designed to secure complete lists of establishments; thereby simplifying the IRS-SSA company list. Control totals, in terms of employment and payrolls of multiunit companies, were also used to verify the completeness of establishment coverage.

It was possible to compare statistics tabulated from the census of manufactures with the Bureau of the Census' Current Industrial Reports Series, or with data originating with other agencies and, thus provide a further confirmation of completeness and accuracy. These figures range from employment and wage totals compiled by the Bureau of Labor Statistics to detailed commodity output figures published by the IRS, the Fish and Wildlife Service, and the Department of Agriculture. In this volume, differences between the census of manufactures and other statistics are explained wherever possible. Census of manufactures comparability with broad measures such as national income, new capital expenditures, and production indexes are discussed elsewhere in this introduction. The Bureau of the Census' other procedures designed to improve the accuracy of the census data are discussed above in the items on data collection and processing.

[15] The SSA records for multiunit companies identify "reporting units," which in many instances correspond to census establishments. The differences are such, however, that it was found necessary to obtain up-to-date lists of establishments as described in this section. Also, the Bureau of the Census concept of a company differs from the IRS-SSA definition, since the census company includes all establishments under common ownership or control. In the IRS-SSA records, subsidiary corporations are often treated as independent companies.

[16] If two or more distinct lines of activity were carried on at one location, separate reports were obtained under some circumstances. (For a complete discussion, see "Establishment Basis of Reporting" in section 4.)

[17] This form is reproduced in appendix D.

A discussion of the valuation of intracompany shipments by multiunit companies is included in item 15.

10. GEOGRAPHIC CODING

Accurate and complete information on the physical location of each establishment is required in order to tabulate the census data by standard metropolitan statistical areas, counties, and cities. As in previous censuses, the post office address and ZIP code of the establishment were not always accepted as defining the physical location, but respondents were required to describe the actual location in terms of street address; city, town, or village; county; and State. For establishments located in rural territory, the name or number of the nearest highway was requested and the distance from the nearest town or other urban place.

In censuses prior to 1963, clerks assigned geographic code numbers to each establishment based on the description furnished by the respondent. This process was slow and required careful verification. Beginning with 1963, a computerized system was developed which assigned an area code number and a prefix symbol to the mailing address before the questionnaires were mailed. The prefix symbol indicated whether or not the mailing address was clearly acceptable as describing the physical location. If there was any question about its acceptability, the respondent's description was later carefully reviewed after the questionnaire was received. The assignment of tentative code numbers by the computer was based on extensive reference files containing nearly a million business names and addresses.

11. DATA COLLECTION

Although the greater use of administrative records in 1977 substantially reduced the number of companies canvassed directly, there remained nearly 2 million which were required to file, including about 205,000 manufacturers. Small manufacturers, for whom the administrative records sufficed, numbered about 145,000. The assembly of several hundred different questionnaires into mailing packages correctly labeled and coded, combined with the correct instruction booklets, was an extensive operation.

Most of the 1977 questionnaires were mailed by mid-January 1978 with a due date of February 15. The collection phase was completed by late July 1978.

Companies which did not return their questionnaires by the due date had to be reminded that their returns were overdue. In all, there were five routine followups. Telephone calls were made to the large companies to help with reporting problems and to request that the forms be completed and returned.

Estimates based on data from administrative records were included in the census tabulations for the relatively small number which had not responded by the closeout date in July 1978. Thus, reported or estimated data for all companies and establishments in the original mailing list (except those determined to be inactive during 1977) were included in the final statistical results. A special effort was made to obtain actual returns from all large firms, so that the dollar volume of business represented by proxy returns was relatively very small.

12. DATA PROCESSING

General—The editing,[18] coding, and tabulation of data for the 5 million establishments represented in the 1977 economic censuses was a complicated task. Automatic data processing and other advanced techniques were used in all phases.

The questionnaires were mailed from and returned to the Bureau of the Census office at Jeffersonville, Ind., where most noncomputer (that is, clerical) processing operations were performed. The returns were screened to identify major problems that could be resolved by routine correspondence with respondents. Acceptable data were placed on a key-to-disc system, and the encoded data sent to Washington, D.C. on a high-speed transmission system. The Washington, D.C. staff handled computer operations and all operations in connection with the use of IRS and SSA records.

Preliminary screening—After they were checked in and assigned geographic codes, the questionnaires were reviewed clerically to see that they conformed to certain minimum requirements before further processing. For multiunit companies, the sum of employment and payrolls reported on its establishment questionnaires was compared with the control totals received on IRS form 941. Questionnaires received on single-unit forms were reviewed to ascertain whether they had become multiunits through merger or acquisition. Questions arising in the screening operation were resolved by writing or telephoning the respondents. Complex problems were referred to the Washington, D.C. professional staff.

Computer editing—As in the 1972 Census of Manufactures, most of the review for consistency among data items and completeness was done on the computer. Average values and tolerance limits for key operating ratios (for example, cost of materials per dollar of shipments, payroll per employee, production-worker wages per hour, etc.) played a fundamental role in the editing process. More than half of all 4-digit SIC industries had one or more data cells changed by more than 5 percent as a result of the application of these programs.

A detailed description of the step-by-step processing procedures appears in the Bureau of the Census publication, History of the 1977 Economic Census. This volume describes the procedures followed in both the centralized overall processing and in the individual censuses such as manufactures.

[18] In data processing, the term "editing" means the review of information collected on questionnaires or from other sources, with the objective of locating and correcting erroneous entries.

III. Comments on Statistical Measures and Tables

(Explanations and definitions of the various measures of activity for which statistics are compiled in the census of manufactures are presented in appendix A. In the following text, the limitations and other characteristics of some of these measures are discussed, the content of the statistical tables is described, and comparisons with other statistical series are presented.)

13. EMPLOYMENT AND PAYROLLS IN ADMINISTRATIVE OFFICES AND AUXILIARIES

In the industry statistics chapters, the data on employment and payrolls are limited to operating manufacturing establishments. In the summary tables and the area reports, the employment and payrolls of administrative offices and auxiliaries are included as well. The report filed for administrative offices and auxiliaries requested a description of the activity of the establishments that they serviced. However, the administrative offices and auxiliaries were coded only to the 2-digit industry group of the establishments they served, whereas the operating establishments were coded to a 4-digit manufacturing industry. In most of the tables with industry detail, the administrative offices and auxiliaries are shown as a separate industry group, but statistics for them by 2-digit industry appear in each volume in the general summary tables. As indicated in table H, the relative importance of administrative offices and auxiliaries has increased substantially in recent years because of a tendency to centralize functions formerly performed in manufacturing plants. Such functions include accounting (particularly where computerized), warehousing repair services, and miscellaneous others.

Table H. **Employment in Administrative Offices and Auxiliaries and in Operating Manufacturing Plants: 1977 and Earlier**

Census year	Employees in operating manufacturing establishments		Employees in administrative offices and auxiliaries		
	Thousands of employees	Percent change from previous census year	Thousands of employees	Percent change from previous census year	Percent of total employment[1]
1977	18,516	+2.7	1,074	+8.0	5.5
1972	18,032	-2.5	994	+19.8	5.2
1967	18,492	+14.0	830	+14.3	4.3
1963	16,235	+5.3	726	+20.6	4.3
1958	15,423	-1.4	602	[1]+32.9	3.8
1954	15,645	(NA)	453	(NA)	2.8

(NA) Not available.

[1]The apparent increase from 1954 to 1958 is believed to be somewhat overstated, because coverage of administrative offices and auxiliaries was more complete in the 1958 census.

Source: Census of Manufactures.

14. MATERIALS CONSUMED

Every establishment was requested to report the total cost of materials. In addition, quantity and cost information was collected for approximately a thousand specific materials. About 350 of these were "complete coverage" materials; i.e., every industry that consumed appreciable quantities of the material was canvassed so that the data would aggregate to at least 90 percent of manufacturing consumption. For the remaining materials, information on consumption was obtained only in those industries in which the materials were important inputs. Detailed consumption information was collected in item 17, the standard material inquiry; in item 18, the product inquiry (for items that were produced and consumed in the same plant); and in a few instances in a special inquiry. The resulting statistics are presented mainly in tables 6a and 7a of the industry statistics chapters.

Because American industry uses an enormous variety of materials, the choice of materials for which "complete coverage" consumption data (90 percent or higher) were obtained had to be strictly limited. The selection of a particular material for such coverage was based on the following criteria:

a. The importance as measured by the total value of U.S. consumption of the material.
b. The percentage of total consumption accounted for by manufacturing establishments.
c. The availability of consumption information from manufacturers' records.
d. Other factors such as the strategic importance of the material or the availability of historical data on the use of the material.

The "limited-coverage" materials were chosen, not only because they constituted important inputs for particular industries, but frequently because they provided information necessary to classify plants by SIC industry. In using the detailed data on materials consumed which appear in table 7 in the industry statistics chapters, of the following limitations should be noted:

a. Materials were reported for the establishment as a whole and no attempt was made to ascertain how much of the material was used in each of various products. Thus, the industry totals appearing in table 7 include consumption in secondary products as well as primary products

of the industry. The extent of secondary production in each industry is measured by its specialization coverage ratio shown in table 5b of the industry chapters.

b. Special attention should be paid to the codes ending in "000" and captioned "materials, parts, containers, and supplies, n.s.k." The amounts appearing on these lines are totals imputed for (1) establishments whose statistics were developed from administrative records, and (2) totals for establishments which returned report forms but failed to report their consumption in specific terms. Thus, for most industries, the data for a specific material are understated. A judgment on the statistical significance of the understatement may be made from the ratio of the value shown for the "n.s.k." (code 000) to the total of materials, components, parts, containers, and supplies for the industry.

c. Establishments consuming less than a specified amount of material were not requested to report consumption of the material separately. For the majority of individual materials, the minimum amount was $10,000. The use of this cutoff is not believed to have had a significant effect on the totals, although in 1972 a lower cutoff of $5,000 was used.

d. A total of "n.e.c." material code 970099 was collected on most forms and is published for each industry. This is the total cost of materials for an industry for which no material items were prelisted on the form. A sample survey, MA-131, 1977 Supplemental Survey of Materials Consumed, was conducted to provide material consumption estimates for the cost of materials reported in material code 970099 for selected industries. Results of this survey are shown in the subject report Selected Materials Consumed.

15. VALUE OF SHIPMENTS

Value of shipments of multiunit companies—Except for a few industries, the respondents were instructed to report net selling values, f.o.b. plant, after discounts and allowances and excluding freight charges and excise taxes. Multiunit companies were instructed to report for each establishment as if it were a separate economic unit and, in particular, to report interplant transfers at their full economic value. Full economic value is defined as not only the cost of production but also a reasonable proportion of company overhead and profits. Generally, there is no advertising or other selling cost assigned by companies to interplant transfers, so it would be expected that the value per unit of such transfers would be less than that for commercial sales. To assure consistency in the valuation as the interplant transfer moved though the company, the plant receiving the transferred goods was instructed to include them in its cost of materials at the same value as at the shipping point, plus the cost of freight and other handling charges.

If the goods were transferred to sales branches, or sold through separate sales offices, the "f.o.b. plant" instruction implies that the value is somewhat lower than the final invoice value, because the cost of selling (mainly the cost of operating the sales branch or office) is excluded.

However, there is reason to believe that these instructions were not followed uniformly by all companies. In a record-keeping practice study of 54 multiunit companies conducted a few years ago, it was found that about half of them had reported interplant transfers of semifinished products at commercial or market prices, which tend to be somewhat higher than the "cost plus overhead and profit" requested in the census instructions. Where finished products were transferred to separate selling organizations, half of the companies interviewed valued the products leaving the manufacturing plant at their final or invoice price, or somewhat higher than the requested "f.o.b. plant" transfer value. It appears from this study and other observations that the value of shipments of products reported by multiunit companies tends to be overstated. If it was known that a substantial amount of a product tended to be transferred to establishments of the same company, separate quantity and value figures were requested on the amount transferred and the amount sold outside the company. Data on these shipments, the unit value of which tends to be different from the unit value for shipments outside the company, are presented separately in table 6a in the industry statistics chapters.

Individual products—In the 1977 census program, information was collected on the output of approximately 13,000 individual product items.[19] A "product" as used in the census of manufactures is the finest level of detail for which output information was requested. It is not necessarily synonymous with the term "product" as used in the marketing sense. In some cases, it may be much more detailed and, in other cases, it is more aggregative. For example, there is a long list of pharmaceutical preparations but a single item for all canned meats. If detailed production figures were available from other government sources or reliable private surveys, it was not considered necessary to request extensive detail in the census.

Some 6,000 of the product items were listed separately on the 1977 census report forms. Data for the remaining 7,000 products were obtained monthly, quarterly, or annually in commodity surveys of the current industrial reports program of the Bureau of the Census. Totals for the year 1977 for these items compiled in the commodity surveys are shown in table 6a, "products shipped," in the industry statistics chapters. On the 1977 census forms, only an overall control total or "tieline" was obtained. In table 6a, both the tieline total and the total of the detail obtained in the current industrial reports are shown to indicate how closely the two surveys were reconciled.

Typically, both quantity and value of shipments were collected. However, physical quantity measures are not meaningful for some product lines, and for these, only value of shipments was collected. If a product was used to a large degree in the fabrication of other products within the same establishment in which it was produced, total quantities produced and often the quantities consumed were collected. Information on production, as well as shipments, was also collected for products for which there are significant differences between the two

[19] See 1977 Census of Manufactures MC77-R-1, Numerical List of Manufactured Products.

because of wide fluctuations in finished goods inventories. Alternate measures of output of products, such as value of work done for products with long production cycles, were used as appropriate and feasible.

Classes of products—The individual products were aggregated into classes of products which were, in turn, grouped into the primary products of each industry. In the code structure, a 7-digit number is assigned to the individual product, a 5-digit code to the class of product, and a 4-digit code to the total primary products in an industry. (See section 4 for application of coding structure to the assignment of SIC codes for establishments).

The 13,000 product items in the 1977 census (including products from the current industrial reports program) were grouped into approximately 1,500 separate product classes. General similarity was the basis for the product class combinations within each 4-digit industry, i.e., kind or use of products, the manufacturing processes, type of markets, or materials used. The economic significance of the class was also taken into account; residual products of an industry were grouped when the dollar value of the products did not warrant separate classes.

Since preserving confidentiality of the data of respondent companies is a determinant of the amount of detail that can be published, the larger number of respondents included in the product-class shipments totals permit many more cross tabulations than do the 7-digit products. In the industry statistics chapters, product classes by State appear in table 6b and by industry of the establishment producing them in table 5c. The latter table clearly shows the primary and secondary product mix of an industry, as well as the interrelationship between the 4-digit industry value of shipments and the 4-digit product group value of shipments.

It is possible to classify individual establishments not only by 4-digit industry, but also by the largest class of products they produce within that industry. Table 5a provides finer industry-type general statistics for establishments classified according to the degree to which they specialize in producing a specific class of products.

The class-of-product concept was incorporated by the Bureau of the Census into the 1947 Census of Manufactures after it developed the technique in the compilation of World War II production statistics. Product classes were used to collect product information in the first ASM conducted in 1949. The product classes tend to be redefined more frequently than the SIC on which they are based in order to keep abreast of the growth and decline of products.

Effect of use of administrative records on product data—As noted elsewhere in this Introduction, 140,000 small manufacturers were not mailed report forms and most of their detail was imputed based on limited information in IRS and SSA administrative records. All of the value of products of these small establishments were coded only to the 4-digit products of the industry in which they were classified. These product shipment are uniquely identified in table 6a. Also uniquely identified are product shipments of reporting companies which were described too generally to code below the 4-digit level. Frequently, these were residuals in the company's records which the company felt it could not further break down. Table I, summarized by 2-digit group, reflects the importance of these "n.s.k." product shipments. Except in a few industries, they tend to be moderate in size—except in lumber, furniture, and printing (SIC 24, 25, and 27). The "n.s.k." of the respondents tends to be larger than that of the administrative records.

One factor tends to reduce the value of products, n.s.k., attributed to administrative record companies that affects table I, particularly. In some 4-digit industries, there is only one product category (an example is Industry 3273, Ready-Mixed Concrete). Administrative-record estimates for these products were treated as specific information and not tabulated as "n.s.k." headings.

In using the data for the specific 7-digit products shown in table 6a, the importance of the "n.s.k." has to be considered. The shipments of individual products tend to be understated somewhat in proportion to the size of the "n.s.k." Census-to-census comparison of 7-digit products should be made with caution if there has been a significant increase or decrease in the importance of the n.s.k.

16. DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

The aggregates of the cost of materials and value of shipments figures for industry groups, and for all manufacturing industries, include large amounts of duplication since the products of some industries are used as materials by others. With some important exceptions, such as SIC 3312, Blast Furnaces and Steel Mills, this duplication is not significant within individual 4-digit industries. However, it is significant at the 2- and 3-digit industry levels because these group totals often include industries which are successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the total value of shipments of SIC major group 20 and the addition of pulpmills to papermills in group 26. Economists have estimated that the value of manufactured products exclusive of such duplication—the value of finished manufactures—tends to approximate two-thirds of the total value of shipments reported in the census of manufactures.

Because the amount of duplication of the cost of materials in the value of products figures cannot be measured with any degree of precision, caution is urged with the use of the value of shipments totals at the 2- and 3-digit industry group levels.

Even where there is no significant amount of duplication within an industry group, value of shipments figures are not the best measures of the relative economic importance of individual manufacturing industries or geographic areas. There are wide variations in the ratio of materials, labor, and other processing costs to value of shipments; both among industries and within the same industry. The manufacturing process contributes only a small amount to the sales value of some products; but a large amount to the final value of others. Value added by manufacture is a better measure of the net contribution of an industry to the Nation's overall output.

Table I. **Value of Products, Not Specified by Kind: 1977 and 1972**

Product group code	Total value of product shipments (mil. dol.)		Products not specified by kind											
			Total (mil. dol.)		Large companies (mil. dol.)		Small companies (mil. dol.)		Percent attributed to--					
									Total		Large companies		Small companies	
	1977	1972	1977	1972	1977	1972	1977	1972	1977	1972	1977	1972	1977	1972
Total	1,287,117.8	739,426.8	65,064.9	35,968.3	43,057.2	25,132.6	22,007.7	10,835.7	5.1	4.9	3.3	3.4	1.7	1.5
20	177,357.2	106,779.6	10,836.6	5,700.5	7,446.0	4,302.6	3,390.6	1,397.9	6.1	5.3	4.2	4.0	1.9	1.3
21	8,524.9	5,540.2	54.3	40.8	38.2	32.3	16.1	8.5	.6	.7	.4	.6	.2	.1
22	39,439.5	30,884.3	1,243.0	833.3	871.9	672.3	371.1	161.0	3.1	2.7	2.2	2.2	.9	.5
23	38,876.5	29,247.5	4,207.2	2,435.6	3,213.0	1,728.9	994.2	706.7	10.8	8.3	8.3	5.9	2.5	2.4
24	38,110.0	22,919.6	5,312.9	2,999.3	3,470.8	1,405.0	1,842.1	1,594.3	13.9	13.1	9.1	6.1	4.8	7.0
25	16,162.9	10,843.2	1,763.4	1,155.5	1,195.3	848.5	568.1	307.0	10.9	10.6	7.4	7.8	3.5	2.8
26	50,350.3	27,227.4	1,883.4	791.2	1,341.3	677.6	542.1	113.6	3.7	2.9	2.7	2.5	1.1	.4
27	46,692.4	29,347.5	6,091.9	3,433.1	4,167.9	1,891.6	1,924.0	1,541.5	13.0	11.7	8.9	6.4	4.1	5.3
28	109,724.4	53,038.9	3,453.6	1,567.3	2,122.4	1,140.7	1,331.2	426.6	3.1	3.0	1.9	2.2	1.2	.8
29	93,945.7	27,349.6	776.6	330.0	674.8	255.6	101.8	74.4	.8	1.2	.7	.9	.1	.3
30	38,237.2	19,963.5	3,297.5	1,360.3	2,508.3	1,048.3	789.2	312.0	8.6	6.8	6.5	5.2	2.1	1.6
31	7,122.3	5,472.0	594.7	335.0	488.2	242.4	106.5	92.6	8.3	6.1	6.8	4.4	1.5	1.7
32	33,780.9	21,139.7	1,756.8	1,042.1	1,164.2	678.7	592.6	363.4	5.2	4.9	3.4	3.2	1.7	1.7
33	99,044.8	71,058.4	1,469.7	1,225.0	822.7	1,069.8	647.0	155.2	1.5	1.7	.8	1.5	.7	.2
34	85,593.8	51,167.1	6,059.9	3,677.9	3,976.7	2,847.1	2,083.2	830.8	7.1	7.2	4.6	5.6	2.4	1.6
35	115,329.9	60,212.7	7,624.6	4,085.9	4,557.9	2,699.2	3,066.7	1,386.7	6.6	6.8	4.0	4.5	2.7	2.3
36	83,014.3	49,958.8	2,988.2	1,464.2	1,650.0	1,148.2	1,338.2	316.0	3.6	2.9	2.0	2.3	1.6	.6
37	161,607.6	91,522.0	1,999.9	1,413.5	1,084.9	1,126.8	915.0	286.7	1.2	1.5	.7	1.2	.6	.3
38	26,949.1	14,484.8	1,277.4	556.1	662.6	413.8	614.8	142.3	4.7	3.9	2.5	2.9	2.3	1.0
39	17,254.1	11,270.0	2,373.3	1,521.7	1,600.1	903.2	773.2	618.5	13.8	13.5	9.3	8.0	4.5	5.5

Note: These values are product shipments, irrespective of the industry in which the products were made and exclusive of miscellaneous receipts, and, therefore, differ from the industry group totals shown in the general summary tables. However, products primary to more than one product group are classified based on the industry in which they were made. Data for some product groups may differ slightly from the data collected in order to avoid disclosing operations of individual companies which have previously been withheld from the tables 6a of the 1977 and 1972 Censuses of Manufactures Industry Series.

17. VALUE ADDED BY MANUFACTURE

General—The first step in the calculation of value added is the conversion of the value of shipments (including resales and miscellaneous receipts) to value of production by adding the ending inventory of finished foods and work in process inventories and subtracting the beginning inventory. The cost of materials (including materials, supplies, fuel, electric energy, cost of resales, and cost of contract work) is then subtracted from this value of production to obtain value added.[20]

Value added avoids the duplication in the value of shipments figure which results from the inclusion of the shipments of establishments producing materials and components, along with the shipments of establishments producing finished products. It does not exclude the cost of services purchased from other business firms, as does the concept of value added, used in the national income accounts.[21] Nevertheless, it is considered to be the best value measure available in census data for comparing the relative economic importance of manufacturing among industries and geographic areas.

Gross national product, national income, and value added—The national income accounts provide two measures of national output or value added originating in manufacturing: (1) gross national product (GNP), or, more precisely, gross domestic product (GDP),[22] and (2) national income without capital consumption adjustment. These two measures are statistically different and neither is completely comparable to census value added.

GDP originating in manufacturing is the net value of the output of goods and services produced in the U.S. at market prices before deductions for depreciation charges and capital consumption allowances. It differs, in part, from the census value added since it includes indirect business taxes (e.g., sales, excise, and property). Excise and sales taxes are excluded from the f.o.b. census value of shipments and, thus, from census value added. Property taxes are part of the cost of doing business included in census value added, since only the cost of materials is deducted from f.o.b. shipments. A greater difference between GDP and census value added rests in the exclusion of purchased business services from GDP, but not from census value added. Both GDP and census value added include the basic factor costs of production—labor costs, property costs including depreciation, and profits. Depreciation in the two series is calculated differently, however. The census collects depreciation as carried on the books of the establishment. Thus, it tends to be the depreciation

[20] For a few industries (for example, ship building) where value of work done is substituted for value of shipments, no adjustment is made for change in inventories. In a few other industries where value of production is collected, the inventory adjustment is made only on the basis of change in work-in-process inventories.

[21] Collection of data on the cost of purchased business services at the plant level presents many problems. Advertising by multiunit companies, for example, is frequently charged at the company level and the cost either not allocated to plants or, if allocated, are only included as part of a broader company overhead category. National income data, on the other hand, are compiled, in part, from company rather than plant data, such as the IRS Statistics of Income in which advertising is presented as a separate cost item based on company reports.

[22] Gross national product is the market value of goods and services producted by labor and property supplied by *Residents* of the United States. Gross domestic product is the goods and services attributable to labor and property *located within* the United States.

charged against the original purchase price of the plant or equipment on a tax return basis. In calculating GDP, these tax return allowances are adjusted to account for the economic service lives, straight-line depreciation, and replacement cost.

In compiling the national accounts, it is necessary to rely on two different sources of data: (1) establishment-based data similar to the census for labor income, and (2) company-based data for profit and other company level income and cost charges. In estimating the GDP for manufacturing, the property-type incomes, interest, depreciation, and profit have been reestimated to an establishment basis by the Bureau of Economic Analysis (BEA). Thus, conceptually, both the GDP and value added tend to be on a comparable establishment-industry basis.

In the national accounts, 2-digit detailed statistics within manufacturing are compiled only on a national income basis, without the capital consumption adjustment. National income differs from GDP by the exclusion of indirect business taxes and capital consumption allowances, but before the capital consumption adjustment. Unlike GDP, it remains a mixture of establishment-based data and company-based data for profits and company-type costs. This results in the inclusion in national income of the net value added created by nonmanufacturing establishments of companies primarily engaged in manufacturing, but the exclusion of value added created by manufacturing plants of primarily nonmanufacturing companies. It is thought that this tends to raise the national income attributed to manufacturing. This effect can be seen in the petroleum and coal products industry group where nonmanufacturing activities are so significant that national income exceeds value added (see tables J and K).

Table K provides a year by year comparison of GDP and national income to value added. GDP tends to be 10 to 20 percent lower. In recent years, there are some erratic variations in these relationships. In part, this is thought to be the result of the different treatment of the change in inventory that is used in the two series. The census inventory figures are book value inventories and, thus, a mixture of last-in-first-out (LIFO) and first-in-first-out (FIFO) and other historic accounting methods. In the national income accounts, these inventories are converted to current prices comparable to the prices used to value the GDP, and, thus, the change in inventories is on a current-priced value consistent with sales. Significant differences occur in the change in book value and currently-priced inventories in years of rapidly changing prices. The magnitude of these differences can be partially judged by the size of the inventory valuation adjustment used by BEA (see table L).

Reconciliation of GDP and value added—In recent years, the census and the annual survey of manufactures have been obtaining data on some of the residual costs included in census value added. As a result, it is possible to reconcile in more detail the differences between GDP and value added in manufacturing. In table M, the census value added, at $585.2 billion, exceeded GDP at $462.4 billion. When indirect business taxes (other than property taxes) are deducted from GDP, it drops to $444.0 billion, or $141.2 billion less than census value added. The labor components of the two series are reasonably close, although not identical. Census depreciation, on a book value basis, however,

Table J. **Comparison of National Income Originating and Value Added by Major Industry Group: 1977 and 1972**

(Billion dollars)

SIC code	Industry group description	National income originating[1]		Value added by manufacturing		Column A divided by column C	Column B divided by column D
		1977	1972	1977	1972		
		(A)	(B)	(C)	(D)	(E)	(F)
	Manufacturing	411.5	252.3	585.2	354.0	.70	.71
	Nondurable goods	162.9	98.3	246.9	149.5	.66	.66
20	Food and kindred products	33.1	20.5	56.1	35.6	.59	.58
21	Tobacco manufactures	2.8	1.7	4.3	2.6	.65	.65
22	Textile mill products	12.3	8.4	16.1	11.7	.76	.72
23	Apparel and other fabricated textile products	13.7	9.8	19.7	13.5	.70	.73
26	Paper and allied products	15.5	9.5	22.2	13.1	.70	.73
27	Printing, publishing, and allied industries	21.0	13.5	32.0	20.2	.66	.67
28	Chemicals and allied products	30.8	18.2	56.7	32.4	.54	.56
29	Petroleum refining and related industries	18.7	6.7	16.4	5.8	1.14	1.16
30	Rubber and miscellaneous plastics products	12.2	7.7	19.7	11.7	.62	.66
31	Leather and leather products	2.8	2.2	3.7	2.9	.76	.76
	Durable goods	248.6	154.0	338.3	204.6	.73	.75
24	Lumber and wood products, except furniture	13.2	8.3	16.2	10.3	.81	.81
25	Furniture and fixtures	6.1	4.4	8.9	6.1	.69	.72
32	Stone, clay, and glass products	13.0	8.7	19.1	12.6	.68	.69
33	Primary metal industries	28.6	17.9	37.6	23.3	.76	.77
34	Fabricated metal products	31.7	19.4	45.5	26.9	.70	.72
35	Machinery, except electrical	47.9	27.7	67.2	37.6	.71	.74
36	Electrical machinery	36.4	22.6	50.4	30.6	.72	.74
19[2]	Motor vehicles and equipment	33.7	20.1	64.3	39.8	.82	.83
37	Other transportation equipment	18.9	13.1				
38	Instruments	11.9	7.2	18.7	10.6	.63	.68
39	Miscellaneous manufacturing industries	7.1	4.6	10.3	6.8	.69	.68

[1]Source: Survey of Current Business, July 1970; July 1979.
[2]This major group was recoded to major groups 34, 36, 37, and 38 in the 1972 SIC revision.

Table K. **Comparison of Gross Domestic Product, National Income Originating in Manufacturing, and Value Added by Manufacture 1977 and Earlier Years**

(Billion dollars)

Gross domestic product	Gross domestic product originating in manufacturing[1] [2]	National income originating in manufacturing[1] [2]	Value added by manufacture	Column A divided by column C	Column B divided by column C
	(A)	(B)	(C)	(D)	(E)
1977	462.4	411.5	585.2	.79	.70
1976	410.4	366.6	511.5	.80	.72
1975	358.2	317.7	442.5	.81	.72
1974	340.7	301.4	452.5	.75	.67
1973	326.1	285.3	405.6	.80	.70
1972	292.5	252.3	354.0	.83	.71
1971	265.6	226.5	314.1	.85	.72
1970	252.2	215.1	300.2	.84	.72
1969	256.7	221.9	304.4	.84	.73
1968	242.8	211.0	285.1	.85	.74
1967	222.3	193.7	262.0	.85	.74
1966	216.6	189.7	250.9	.86	.76
1965	197.7	171.3	226.9	.87	.76
1964	179.4	154.5	206.2	.87	.75
1963	167.4	143.8	192.1	.87	.75
1962	157.9	136.0	179.1	.88	.76
1961	144.4	125.0	164.3	.88	.76
1960	143.8	125.1	164.0	.88	.76
1959	141.3	124.3	161.5	.87	.77
1958	123.8	107.9	141.5	.87	.76
1957	131.4	116.3	147.8	.89	.79
1956	126.8	113.2	144.9	.88	.78
1954	106.4	94.7	117.0	.91	.81
1947	66.2	59.6	[3]74.3	.89	.80
1939	(NA)	18.1	[3]24.5	(X)	.74
1929	(NA)	21.9	[3]30.6	(X)	.72

(NA) Not available. (X) Not applicable.

[1]Source: Revised estimates of gross domestic product by major industries, Survey of Current Business, July 1978, p. 28; National Income and Product Accounts.

[2]In comparing gross domestic product and national income originating in manufacturing with value added, the role of change in inventories must be recognized. Census value added is value of shipments less the cost of materials adjusted for the change in book value inventories (finished goods and work in process in most industries.) Gross domestic product and national income originating in manufacture include the change in business inventories as part of gross private domestic investment. In the National Income Accounts, the book value change in inventories is adjusted for change in prices to convert it to prices similar to those used to measure the value of output. This adjustment is referred to as the inventory valuation adjustment. In periods of significant inflation, such as 1974, this adjustment can be substantial and create a slower year-to-year growth in gross domestic product originating than in value added in manufacturing, so there is a drop in gross domestic product and national income originating as a percent of value added in manufacturing. In periods of stable prices, the movements of the two inventory series usually are similar.

[3]Value added for 1947 and earlier years is unadjusted.

Table L. **Change in Manufacturing Inventories: 1977**

(Billion dollars)

Item	Value
Change in book value inventories (census)	$13.4
Inventory valuation adjustment	-8.4
Change in inventories (gross national product)	5.0

Note: In calculating gross national product, the Bureau of Economic Analysis uses the change in total inventories. In compiling value added, the Bureau of the Census typically uses finished goods and work in process inventories only. In 1977, these inventories were $9.3 billion compared with total inventories of $13.4 billion.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

is less than the GDP capital consumption allowance, adjusted for economic service lives, straight-line depreciation, and replacement cost. Census book-value depreciation was $26.7 billion, the adjusted GNP capital consumption allowance, $40.0 billion. After measurable labor costs and depreciation were deducted, unexplained census value was $231.4 billion compared with an explained GNP of $81.4 billion. Census has not been able to measure all the remaining components of value added, especially those parts which are company-type charges and profits. In 1977, information was collected on rentals and cost of communication services, and maintenance and repair purchased from other companies, a total of $22.4 billion, leaving the unexplained portion of value added at $209.0 billion. If the GDP estimates of $9.9 billion for property taxes and $71.4 billion for profits and interest payments are applied to this, there is a final unexplained portion of value added amounting to $127.7 billion.

This residual is attributable to company overhead other than central office payroll, e.g., company-level depreciation, business taxes, and purchased services (advertising, legal, accounting, and other professional services, patents, royalties, etc., not readily measurable separately at the plants).

18. CAPITAL EXPENDITURES AND GROSS ASSETS

Capital expenditures—The manufacturers were instructed to report expenditures of the type chargeable to fixed assets

Table M. COMPARATIVE STATISTICS ON CENSUS VALUE ADDED AND GROSS DOMESTIC PRODUCT: 1977

(Billion dollars)

Item	Census value added	GDP
Total	—	462.4
Less: Indirect tax (except property) business and not subsidies[1]	—	18.4
Equals	[1] 585.2	444.0
Less: Compensation of employees total	327.1	322.6
Census payrolls of operating plants	242.0	—
Census payroll supplements of operating plants	49.9	—
Census payrolls of central offices and auxiliaries	[2] 22.0	—
Census payrolls of sales branches offices	[2] 13.2	—
Equals	258.1	121.4
Less. Additional cost measured by census of manufactures	49.1	40.0
a. Included in GDP: Capital consump. allowance[3]	26.7	40.0
b. Excluded from GDP	22.4	—
Purchased communication service	3.6	—
Purchased maintenance and repairs	11.9	—
Rental payments, building and equipment	6.9	—
Equals: Residual costs included in census value added	209.0	81.4
Less: Costs or incomes assumed to be equal to those measured in GDP	93.6	81.3
Property tax	9.9	9.9
Interest and profit type income	71.4	71.4
Difference between census book value depreciation and GDP depreciation[3]	12.3	—
Equals: Remaining costs in value added (company overhead, other than payrolls included above: e.g., company-level depreciations, business taxes, and services purchased by company or directly by plants (advertising, legal, accounting, and other professional services; communications, patent fees, royalties, travel costs, etc.)	115.4	(.1)

[1] Census measures value of shipments exclusive of sales and excise taxes. Property taxes are a cost included in value added.

[2] There is strong evidence that most companies include the payroll of administrative offices and auxiliaries and all sales offices in setting the f.o.b. value of shipments from their manufacturing plants. Those costs are, thus, included in value added. Many companies also indicate that they include the cost of sales branches, although this may not be universally true (see "value of shipments" in text).

accounts, for which depreciation reserves are normally maintained. Actual capital outlays during the year were requested, not the final value of equipment put in place or structures completed during the year.

The Bureau of the Census estimates of capital expenditures tend to be lower than those published by BEA in its quarterly survey of expenditures for plant and equipment. In addition to normal sampling variation, a major source of difference rests in the scope of the two series. Census data relate only to manufacturing establishments.

The BEA series relating to manufacturing includes all establishments of manufacturing companies, nonmanufacturing as well as manufacturing, but excludes manufacturing establishments of companies that they have classified as chiefly nonmanufacturing. This difference in the two series is particularly important in the petroleum industry where company expenditures for developing new wells and new distribution facilities are ordinarily much larger than their capital expenditures at refineries. The BEA and Census data for recent years are shown in tables N and O.

Table N. Expenditures for New Plant and Equipment—BEA Series and Census: 1977 and Earlier Years

(Billion dollars)

Year	BEA-series[1] (A)	Census (census of manufactures and ASM)[2] (B)	Column B divided by column A (C)
1977	69.2	47.5	.69
1976	59.9	40.5	.68
1975	54.9	37.3	.68
1974	53.2	35.7	.67
1973	42.4	27.0	.64
1972	35.4	24.1	.69
1971	33.6	20.9	.62
1970	37.0	22.2	.60
1969	36.3	22.3	.61
1968	32.3	20.6	.64
1967	32.3	21.5	.67
1966	31.4	20.2	.64
1965	25.4	16.6	.65
1964	21.2	13.3	.63
1963	17.3	11.4	.66
1962	16.0	10.0	.63
1961	15.5	9.8	.63
1960	16.4	10.0	.61
1959	13.8	9.3	.67
1958	13.0	9.6	.74
1954	12.0	8.2	.68
1947	8.7	[2]6.0	.69

[1] Source, U.S. Department of Commerce, Survey of Current Business, October 1980.

[2] Excludes data for establishments under construction but not yet in operation.

[3] Capital consumption allowances in GDP and depreciation as collected in the census are not completely comparable. Depreciation reported in the census is that carried on the books of the establishment and is charged against the original purchase cost of the assets. In the GNP accounts, a "capital consumption adjustment" is made to place the depreciation more on a replacement cost basis. Specifically, it is "the tax-return-based capital consumption allowances, less capital consumption allowances, that are based on estimates of economic service lives, straight-line depreciation, and replacement cost."

Source: Department of Commerce, Bureau of Economic Analysis, and Bureau of the Census.

Table 0. **Expenditures for New Plant and Equipment—BEA Series and Census of Manufactures, by Industry Group: 1977**

(Billion dollars)

Industry groups	BEA series[1]		Census of manufactures		Census as percent of BEA	
	1977	1972	1977	1972	1977	1972
All manufacturing.....	69.2	35.4	47.5	24.1	.69	.68
Durable goods.....	34.0	18.1	24.4	12.7	.72	.70
Primary metals.....	5.4	2.4	4.5	2.1	.83	.88
Fabricated metal.....	2.5	1.4	2.6	1.3	1.04	.93
Electric machinery.....	4.7	2.8	2.9	1.4	.62	.50
Machinery, except electric..	6.6	3.2	4.4	1.9	.67	.59
Transportation equipment....	9.1	4.4	4.7	2.7	.52	.61
Stone, clay, and glass.....	2.2	1.3	1.9	1.2	.86	.92
Other durables.....	3.5	2.6	3.4	2.1	.97	.81
Nondurable goods.....	35.2	17.3	23.2	11.4	.66	.66
Food and beverages.....	5.1	3.3	4.2	2.4	.82	.73
Textiles.....	1.3	1.1	1.2	1.1	.92	1.00
Paper.....	3.6	1.5	3.3	1.3	.92	.87
Chemicals.....	8.1	3.4	8.2	2.7	1.01	.79
Petroleum.....	12.7	4.8	2.3	1.2	.18	.25
Rubber.....	1.7	1.0	1.6	1.1	.94	1.10
Other nondurables.....	2.7	2.2	2.4	1.6	.89	.73

[1]Source: U.S. Department of Commerce, Survey of Current Business, October 1980.

Gross value of fixed assets—In addition to reporting capital expenditures during the year, the manufacturers were requested to report the original cost value of fixed assets (structures and machinery and equipment) in place at the end of the year, along with depreciation and retirements during the year. This series, however, is based on reports filed in the ASM sample. It is conceptually comparable with the capital expenditures data. As the census capital expenditures series differs from the BEA series, so the census gross assets series will differ from similar series based on company level reports, i.e., those appearing in the IRS Statistics of Income and the FTC Quarterly Financial Report of Corporations. Since the census assets series is also based on sample estimates from the ASM, it is subject to a sampling error. (See appendix A for more complete definitions of terms.)

19. INVENTORIES

The value of end-of-year inventories held by each manufacturing establishment was obtained for each year. Separate information was requested for—

a. Finished goods,
b. Work-in-process, and
c. Materials, supplies, fuel, and other inventories.

A measure of the changes in inventories from the beginning to the end of each year is essential to the conversion of value of shipments during the year to value of production, and, therefore, to the calculation of value added. The ratios of inventories to shipments at different times are also used in analysis of trends and business-cycle movements. For the best use of all of these measures, the inventories should be valued in the same prices as the shipments. Census inventory statistics have some limitations in these uses.

The inventories, as collected currently and in the past, have been the inventories as carried in the books of each respondent. In aggregating those inventories and calculating inventory changes, census procedures make no adjustments for the different methods of inventory valuation used by the respondents. Change in inventories and the relationship of inventories to shipments can vary significantly depending on whether last-in first-out (LIFO) or some historical method such as first-in first-out (FIFO) is used. These differences can become very significant in periods of rapid- and large-price changes. In recent years, the Bureau of the Census has been obtaining information on the preparation of inventories valued by the different accounting methods, both in its monthly surveys and the annual survey of manufactures. Some results have been published in the monthly Manufacturers' Shipments, Inventories, and Orders survey but none for the ASM. Considerable difficulty has been encountered in obtaining results of publication quality because of the complexity of the accounting at the establishment level and corporate level in large companies. Unofficial results have been made available to BEA to assist them in their adjustment of book value inventories to current and constant prices for use in the national income accounts. Some of the anomalies in the census value added and the national income originating in manufactures are due to the different treatment of inventory change in the two series.

In using inventory data by stage of fabrication for all industries at the industry level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by another establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for individual industries, industry groups, and all manufacturing which are merely aggregates of figures reported by establishments in specified industries.

For a few industries in the food group, there are special problems in the handling of inventories by stage of fabrication. These are industries in which the products are aged. Included among such types of products are stemmed and dried tobacco, cheese, and whiskey. It is not clear whether such products should be treated as finished-goods inventories or as work in process while in storage. In all these industries, substantial finished goods inventroies have been reported. These data have been summarized in the inventory tables in a consistent manner for all of the years included in this report.

20. PLANT SPECIALIZATION

As discussed in item 4 above, the primary products of a plant are those which determine its industry classification; all other products are referred to as secondary products. The value of a plant's primary products in comparison to its total production is referred to as its degree of specialization. For each plant, two measures of specialization were computed:

a. A 4-digit primary product-specialization ratio, which is the sum of the values of all the plant's primary products divided by the sum of all its primary and secondary products.

b. A 5-digit primary product-class specialization ratio, which is the sum of the largest 5-digit product-class value divided by the sum of its primary and secondary products (the miscellaneous receipts of the establishment were not included in these calculations). For example, assume that an establishment reported the following:

Total value of shipments and other receipts	$1,000
Miscellaneous receipts (resales, etc.)	15
Total value of products shipped	985
32731, Concrete pipe products	100
32722, Precast concrete products	785
32730, Ready-mixed concrete	100

This plant would be coded into Industry 3272, Concrete Products, with a primary product specialization ratio of 90 percent ($885 ÷ 985); it would be subclassified into the 5-digit Class 32722, Precast Concrete, with a primary product class specialization ratio of 80 percent ($785 ÷ 985).

21. CONFIDENTIALITY

The Bureau of the Census is prohibited by law from publishing any statistics that disclose information reported by individual companies. In suppressing figures to avoid disclosing information of individual companies, individual States are given precedence over geographic regions and divisions. This is an innovation for 1977, since in prior censuses the larger geographic areas were given precedence. As a result of this change in philosophy, it has become more difficult to produce industry detail for the larger geographic areas and data for the these areas are no longer published. States are given precedence over standard metropolitan statistical areas; standard metropolitan statistical areas over counties; and counties over cities.

In tables showing industry detail, major industry group (2-digit) totals take precedence over industry group (3-digit) totals which, in turn, take precedence over individual (4-digit) industries. Similarly, in product tables, 4-digit product groupings take precedence over 5-digit product classes and the latter over individual 7-digit products.

Such order of precedence was used because:

a. It was considered preferable to show State data for an industry, even at the cost of withholding data for a region. In recent years, there seemed to be more need for and use of data for individual States than for the larger regions—especially since many regional development programs encompassed clusters of States different from the standard regions and divisions.
b. By giving preference to industry-group statistics over individual industries within each State, the extent to which individual States can be compared within the SIC industry classification framework is greatly increased.

22. MICROFICHE AND COMPUTER TAPES

Data in many tables in the census volumes are available on microfiche and on computer tape.

One major data series, the Location of Manufacturing Plants, will be available only on computer tape. This series presents the number of establishments by employment size class by 4-digit SIC industry codes for States, counties, and places of 2,500 inhabitants or more. These data are available for both State and county by industry and State and place by industry.

Microfiche reports and computer tapes are sold by Customer Services (Microfiche/Tapes), Data User Services Division, Bureau of the Census, Washington, D.C. 20233.

23. SPECIAL TABULATIONS

Special tabulations of data collected in the 1977 Census of Manufactures may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief, Industry Division, Bureau of the Census, Washington, D.C. 20233.

24. ABBREVIATIONS

The following abbreviations and symbols occur frequently in text, tables, and footnotes:

—	Zero
(X)	Not applicable
(NA)	Not available
(D)	Withheld to avoid disclosing operations of individual companies
n.e.c	Not elsewhere classified
n.s.k.	Not specified by kind
(S)	Suppressed
(Z)	Less than one half of unit of measure shown
lin.	Linear
equiv.	Equivalent
hp	Horsepower
kWh	Kilowatt-hours
SIC	Standard Industrial Classification
IRS	Internal Revenue Service
SSA	Social Security Administration
ASM	Annual Survey of Manufactures
CIR	Current Industrial Reports
BEA	Bureau of Economic Analysis
SEC	Securities and Exchange Commission
GNP	Gross National Product

Other abbreviations, such as lb, gal, yd, doz, and bbl, are used in the customary sense. Where the term "tons" only is used, it refers to short tons of 2,000 pounds; where the figures are expressed in tons of 2,240 pounds, the unit of measure is specified as "long tons" or "gross tons."

Data in this publication may differ slightly from the industry and area reports previously published. These differences are due to corrections which were made for minor errors identified after the industry and area reports were issued. This report reflects these corrections.

USERS' GUIDE IN LOCATING STATISTICS BY TABLE NUMBER IN THE INDUSTRY CHAPTERS

(For explanation of terms, see appendix A)

	Item	4-digit industry statistics		
		Historical	Operating ratios	By geographic area
1	Number of manufacturing establishments	1a		2
	Employment and payroll:			
2	Number of employees	1a	1b	2
3	Payroll	1a	1b	2
4	Supplemental labor costs			
5	Production workers	1a	1b	2
6	Production worker hours	1a	1b	2
7	Production worker wages	1a	1b	2
	Shipments, cost of materials, and value added:			
8	Value of shipments (4-digit)	1a	1b	2
9	Product class shipments (5-digit)			
10	Product shipments (7-digit)			
11	Value added by manufacture	1a	1b	2
12	Cost of materials	1a	1b	2
13	Cost of fuels and electric energy			
14	Materials consumed by kind			
	Inventories:			
15	End of year	1a		
16	Stage of fabrication			
	Capital expenditures, assets, rental payments, and purchased services:			
17	New capital expenditures	1a		2
18	Used plant and equipment expenditures			
19	Gross assets	1a	1b	
20	Depreciation			
21	Retirements of buildings and machinery			
22	Rental payments			
23	Purchased services			
	Ratios:			
24	Specialization	1a		
25	Coverage	1a		

[1] Detailed information shown.

4-digit industry statistics—Con.				5-digit product class and 7-digit product statistics				
Summary and supplemental	By employment size	By industry and product class specialization	Materials consumed by kind	Industry-product analysis	Product shipments	Product class by geographic area	Historical product class	
[1] 3a	4	5a						1
3a	4	5a						2
3a	4	5a						3
[1] 3b								4
[1] 3a	4	5a						5
[1] 3a	4	5a						6
3a	4	5a						7
3a	4	5a		5b, 5c				8
				5b, 5c	6a	6b	6c	9
					6a			10
3a	4	5a						11
[1] 3a	4	5a						12
3a								13
			7a					14
3a	4							15
3a								16
[1] 3a, [1] 3b	4	5a						17
[1] 3a, [1] 3b								18
[1] 3b								19
[1] 3b								20
[1] 3b								21
[1] 3b								22
[1] 3b								23
3a				5b				24
3a				5b				25

General Summary

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Table 1. **Statistics for All Manufacturing Establishments Including Administrative Offices and Auxiliaries: 1977 and Earlier Years**

Year	All establishments		All employees[1]		Production workers			Value added by manufacture[3] (million dollars)	Value of industry shipments (million dollars)	New capital expenditures[4] (million dollars)	Index of industrial[5] production (1977=100)
	Total (number)	With 20 employees or more (number)	Number[2] (1,000)	Payroll (million dollars)	Number[2] (1,000)	Hours (million)	Wages (million dollars)				
1977	359,928	118,699	19,590.1	264,013.1	13,691.0	26,686.7	157,163.7	585,165.6	1,358,526.4	47,459.0	100.0
1976[6]	(NA)	(NA)	18,753.0	233,388.7	13,052.0	25,354.2	137,565.4	511,471.1	1,185,695.3	40,669.9	94.5
1975[6]	(NA)	(NA)	18,302.2	209,519.0	12,568.9	24,069.6	121,429.0	442,485.2	1,039,377.4	37,262.1	84.8
1974[6]	(NA)	(NA)	19,844.4	208,312.0	13,927.1	27,251.0	124,977.1	452,497.0	1,017,873.4	35,546.1	94.4
1973[6]	(NA)	(NA)	19,844.8	193,324.5	14,232.8	28,096.9	118,332.6	405,583.6	875,443.2	26,972.9	94.7
1972	320,710	114,195	19,028.7	174,205.5	13,527.9	26,699.2	105,501.8	353,994.0	756,534.3	24,077.7	86.7
1971[6]	(NA)	(NA)	18,363.1	156,202.8	12,874.9	25,265.9	93,231.7	314,138.4	670,970.5	20,940.7	78.9
1970[6]	(NA)	(NA)	19,217.2	153,078.5	13,528.0	26,669.3	91,609.0	300,227.6	634,322.1	22,164.2	77.6
1969[6]	(NA)	(NA)	20,035.5	152,765.6	14,357.8	28,599.8	93,459.6	304,440.7	642,635.8	22,291.2	81.0
1968[6]	(NA)	(NA)	19,527.6	141,822.7	14,041.2	28,156.8	87,480.4	285,058.9	603,220.1	20,613.1	77.6
1967	311,140	110,256	19,323.2	132,208.4	13,955.3	27,837.6	81,393.6	261,983.8	557,397.8	21,503.0	72.9
1966[6]	(NA)	(NA)	19,024.5	125,350.0	13,826.5	28,102.5	78,256.4	250,880.1	538,736.9	20,235.8	72.1
1965[6]	(NA)	(NA)	18,010.2	113,972.2	13,076.0	26,567.8	71,361.5	226,939.9	492,005.7	16,615.0	64.9
1964[6]	(NA)	(NA)	17,268.5	106,403.3	12,403.3	25,245.5	65,838.9	206,193.6	447,985.1	13,294.3	59.1
1963	311,931	102,296	16,958.4	99,898.8	12,232.0	24,509.4	62,093.6	192,082.9	420,528.1	11,370.0	55.3
1962[6]	(NA)	(NA)	16,765.6	94,291.2	12,126.5	24,269.5	59,134.1	179,071.1	399,308.9	10,436.2	52.2
1961[6]	(NA)	(NA)	16,331.2	88,127.8	11,778.5	23,289.4	54,764.6	164,281.1	369,994.3	9,779.8	47.8
1960[6]	(NA)	(NA)	16,762.7	88,087.1	12,209.5	24,174.4	55,555.5	163,998.5	(NA)	10,097.8	47.7
1959[6]	(NA)	(NA)	16,662.2	85,642.0	12,272.6	24,443.6	54,714.1	161,535.8	(NA)	9,140.0	46.8
1958[7]	303,303	95,310	16,025.2	78,348.9	11,681.1	22,679.2	49,605.2	141,540.6	326,722.8	9,543.5	41.6
1957[6]	(NA)	(NA)	17,104.7	79,354.0	12,828.9	25,208.0	52,569.0	147,838.4	(NA)	12,144.0	44.6
1956[6]	(NA)	(NA)	17,178.3	77,059.0	13,131.3	26,088.5	52,040.8	144,909.3	(NA)	11,233.2	44.1
1955[6]	(NA)	(NA)	16,818.5	72,126.0	12,954.4	25,898.3	49,217.9	135,022.5	(NA)	8,233.1	42.5
1954[7]	(NA)	(NA)	16,125.6	65,977.0	12,372.0	24,334.1	44,590.5	117,032.3	(NA)	8,200.7	37.6
1953[6]	(NA)	(NA)	17,093.0	68,590.4	13,500.9	27,065.6	48,979.1	121,659.1	(NA)	8,047.9	40.3
1952[6]	(NA)	(NA)	16,061.0	61,140.6	12,706.0	25,617.6	43,763.6	109,162.1	(NA)	7,883.4	36.9
1951[6]	(NA)	(NA)	15,638.0	56,283.8	12,508.9	25,263.8	40,654.8	102,085.8	(NA)	7,781.7	35.4
1950[6]	(NA)	(NA)	14,769.9	47,892.9	11,778.8	23,716.5	34,600.0	89,749.8	(NA)	5,041.3	32.8
1949[6]	(NA)	(NA)	13,880.1	42,752.0	11,016.3	21,769.7	30,254.0	75,366.5	(NA)	5,066.9	28.2
1947	240,807	(NA)	14,294.0	39,695.6	11,917.9	24,316.5	30,244.0	74,290.5	(NA)	5,998.1	28.7
1939[8]	173,802	(NA)	[9]9,527.3	[9]12,706.1	7,808.2	(NA)	8,997.5	24,487.3	(NA)	(NA)	15.7
1937	166,794	(NA)	9,786.4	12,829.7	8,569.2	(NA)	10,112.9	25,173.5	(NA)	(NA)	(NA)
1935[7]	167,916	(NA)	8,262.3	9,564.8	7,203.8	(NA)	7,311.3	18,552.6	(NA)	(NA)	(NA)
1933	139,325	(NA)	6,557.9	[10]6,237.8	5,787.6	(NA)	4,940.1	14,007.5	(NA)	(NA)	10.2
1931	171,450	(NA)	(NA)	(NA)	6,163.1	(NA)	6,688.5	18,600.5	(NA)	(NA)	(NA)
1929	206,663	(NA)	9,659.7	14,284.3	8,369.7	(NA)	10,884.9	30,591.4	(NA)	(NA)	(NA)
1927	187,629	(NA)	9,072.1	13,123.1	7,848.1	(NA)	10,099.5	26,325.4	(NA)	(NA)	16.6
1925	183,877	(NA)	9,142.4	12,957.7	7,871.4	(NA)	9,979.6	25,667.6	(NA)	(NA)	(NA)
1923	192,096	(NA)	9,474.7	12,996.5	8,194.2	(NA)	10,148.6	24,569.5	(NA)	(NA)	(NA)
1921	192,059	(NA)	7,557.4	9,870.2	6,475.5	(NA)	7,451.3	17,252.8	(NA)	(NA)	(NA)
1919	270,231	(NA)	9,836.8	12,426.9	8,464.9	(NA)	9,664.0	23,841.6	(NA)	(NA)	(NA)
1914	268,436	(NA)	7,514.2	5,016.0	6,602.3	(NA)	3,782.3	9,385.6	(NA)	(NA)	(NA)
1909	264,810	(NA)	7,021.1	4,105.5	6,261.7	(NA)	3,205.2	8,160.1	(NA)	(NA)	(NA)
1904	213,444	(NA)	5,674.9	2,990.9	5,181.7	(NA)	2,440.9	6,019.2	(NA)	(NA)	(NA)
1899	204,754	(NA)	4,850.0	2,258.7	4,501.9	(NA)	1,892.6	4,647.0	(NA)	(NA)	(NA)
1899[11]	509,490	(NA)	5,478.3	2,595.6	5,097.6	(NA)	2,206.5	5,474.9	(NA)	(NA)	(NA)
1889	353,864	(NA)	4,586.5	2,209.1	4,129.4	(NA)	1,820.9	4,120.3	(NA)	(NA)	(NA)
1879	253,852	(NA)	(NA)	(NA)	2,732.6	(NA)	948.0	1,972.8	(NA)	(NA)	(NA)
1869	252,148	(NA)	(NA)	(NA)	2,054.0	(NA)	620.5	1,395.1	(NA)	(NA)	(NA)
1859	140,433	(NA)	(NA)	(NA)	1,311.2	(NA)	378.9	854.3	(NA)	(NA)	(NA)
1849	123,025	(NA)	(NA)	(NA)	957.1	(NA)	236.8	464.0	(NA)	(NA)	(NA)

(NA) Not available.

[1]The figures for 1939 to 1977 include data for employees at manufacturing establishments who were engaged in distribution and in construction work. The extent to which data for such employees were included in the figures for earlier years is not known. In addition to the employment and payroll for operating manufacturing establishments, manufacturing companies reported separately for administrative offices or auxiliary units (e.g., research laboratories, storage warehouses, power plants, garages, repair shops, etc.) that service the manufacturing establishment(s) of a company. These data are included in the total employment, payroll, and establishment figures for the years 1949 to 1977.

[2]The method of compiling these figures varied, as follows: All employees: For 1955 to 1977, figures represent the average of the number of production workers for the payroll period ended nearest the 12th of March, May, August, and November, plus all other employees for the payroll period ended nearest the 12th of March; for 1949 to 1954, they represent an average of all employees for the payroll period ended nearest the 12th of March, May, August, and November; for 1947, an average of 12 monthly figures for all employees; and for 1939 and prior years, the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). Production workers: For 1949 to 1977, figures are based on employment for the payroll period ended nearest the 12th of March, May, August, and November; and for 1947 and prior years, they represent the average of 12 monthly figures.

[3]For the period 1954 to 1977, value added by manufacture represents adjusted value added, and for earlier years, unadjusted value added. Unadjusted value added is obtained by substracting the cost of materials, supplies and containers, fuel, purchased electric energy, and contract work from the value of shipments for products manufactured plus receipts for services rendered. Adjusted value added also takes into account (a) value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacture, processing, or assembly), plus (b) the net change in finished goods for work-in-process inventories between the beginning and end of the year. For 1849 to 1933, cost of contract work was not subtracted from value of shipments in calculating value added by manufacture.

[4]The figures for 1951 to 1977 include expenditures for plants under construction and not yet in operation. This information was not collected prior to 1951.

Footnotes are continued on next page.

[5]Source: Board of Governors, Federal Reserve System.

[6]These figures represent estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, therefore, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The standard errors associated with these estimates are published in the annual survey of manufactures volumes for this period.

[7]The 1958 and subsequent years figures include establishments classified in Industry 3273, Ready-Mixed Concrete, and establishments classified in Industry 3599, Machinery, Except Electrical, N.E.C., that were engaged exclusively or almost exclusively in machine shop repair work. The data for such establishments are excluded from the figures for the period 1939 to 1957, but are included for 1929 and earlier years. The 1954 to 1966 figures include data for establishments engaged in the processing and distribution of fluid milk, Industry 202, Dairy Products. These establishments were not included in the figures for earlier census years. In addition, beginning with 1954, the figures include data for Industry 2411, Logging Camps and Logging Contractors, which were not included within the scope of the 1947 census. There were also a number of changes in the definition of manufacturing industries during earlier census years that affect the comparability of the historical series. Among the more important of these were the following: Figures for 1935 and later years exclude data for railroad repair shops and manufactured gas, which were included in 1899 to 1933 figures; the minimum size of establishment included for 1947 to 1966 was one employee; for 1921 to 1939, manufacturing establishments reporting value of shipments of $5,000 or more were within scope; whereas, for 1919 and earlier years, the cutoff was $500. (These changes in procedure have not appreciably affected the comparability of the historical data except for the figures on number of establishments.)

[8]The figures for 1939, but not for earlier years, have been revised on the basis of retabulation of the returns to exclude data for establishments classified as manufacturing in 1939 and prior years but classified as nonmanufacturing beginning with 1947. Value added by manufacture for 1939, prior to revision and on a basis comparable with 1937 and previous year, was $24.7 billion.

[9]The 1939 figures for all employees were revised on the basis of estimates rather than by retabulation of the 1939 reports. The estimates were made in the following manner: For the number of employees, by multiplying the retabulated figure for number of production workers by the ratio of all employees to production workers computed from the unrevised 1939 statistics; for salaries and wages, by multiplying the retabulated wage figure by the ratio for salaries and wages also derived from the unrevised 1939 statistics.

[10]Not including data for salaried officers of corporations and their salaries and, therefore, not strictly comparable with figures for other years.

[11]These figures for 1899 and earlier years represent hand and neighborhood manufacturing operations.

Table 2. **Operating Ratios for All Manufacturing Establishments Including Administrative Offices and Auxiliaries: 1977 and Earlier Years**

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
1977	13,477	22,406	70	1,949	5.89	58	77	32	29,871	45	21.93
1976	12,445	21,423	70	1,943	5.43	57	77	34	27,274	46	20.17
1975	11,448	20,075	69	1,915	5.04	57	78	35	24,177	47	18.38
1974	10,497	17,131	70	1,957	4.59	57	78	33	22,802	46	16.60
1973	9,716	15,889	72	1,974	4.21	55	77	36	20,383	48	14.44
1972	9,155	15,799	71	1,974	3.95	54	77	40	18,603	49	13.26
1971	8,506	15,107	70	1,962	3.69	53	76	41	17,107	50	12.43
1970	7,966	13,910	70	1,971	3.43	53	78	42	15,623	51	11.26
1969	7,625	12,440	72	1,992	3.27	53	77	39	15,195	50	10.64
1968	7,263	11,869	72	2,005	3.11	53	77	38	14,598	50	10.12
1967	6,842	11,286	72	1,995	2.92	54	77	39	13,558	50	9.41
1966	6,589	(NA)	73	2,033	2.78	55	78	(NA)	13,188	50	8.93
1965	6,328	(NA)	73	2,032	2.69	55	78	(NA)	12,601	50	8.54
1964	6,162	9,726	72	2,035	2.61	54	78	37	11,940	52	8.17
1963	5,890	9,294	72	2,004	2.53	55	78	37	11,325	52	7.84
1962	5,624	8,890	72	2,001	2.44	55	79	37	10,681	53	7.38
1961	5,396	(NA)	72	1,977	2.35	56	80	(NA)	10,059	54	7.05
1960	5,255	(NA)	73	1,980	2.30	(NA)	(NA)	(NA)	9,784	54	6.78
1959	5,140	(NA)	74	1,992	2.24	(NA)	(NA)	(NA)	9,695	53	6.61
1958	4,889	(NA)	73	1,942	2.19	(NA)	(NA)	(NA)	8,832	55	6.24
1957	4,639	6,460	75	1,963	2.09	(NA)	(NA)	(NA)	8,643	54	5.86
1956	4,486	(NA)	76	1,987	1.99	(NA)	(NA)	(NA)	8,436	53	5.55
1955	4,288	(NA)	77	1,999	1.90	(NA)	(NA)	(NA)	8,028	53	5.21
1954	4,091	(NA)	77	1,967	1.83	(NA)	(NA)	(NA)	7,258	56	4.81
1953	4,013	(NA)	79	2,005	1.81	(NA)	(NA)	(NA)	7,117	56	4.49
1952	3,807	(NA)	79	2,016	1.71	(NA)	(NA)	(NA)	6,797	56	4.26
1951	3,586	(NA)	80	2,020	1.61	(NA)	(NA)	(NA)	6,539	55	4.04
1950	3,243	(NA)	80	2,013	1.46	(NA)	(NA)	(NA)	6,077	53	3.78
1949	3,080	(NA)	79	1,976	1.39	(NA)	(NA)	(NA)	5,430	57	3.46
1947	2,777	(NA)	83	2,040	1.24	(NA)	(NA)	(NA)	5,197	53	3.06
1939	1,334	(NA)	82	(NA)	(NA)	(NA)	(NA)	(NA)	2,570	52	(NA)
1937	1,311	(NA)	88	(NA)	(NA)	(NA)	(NA)	(NA)	2,572	51	(NA)
1935	1,158	(NA)	87	(NA)	(NA)	(NA)	(NA)	(NA)	2,245	52	(NA)
1933	951	(NA)	88	(NA)	(NA)	(NA)	(NA)	(NA)	2,136	45	(NA)
1931	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1929	1,479	(NA)	87	(NA)	(NA)	(NA)	(NA)	(NA)	3,167	47	(NA)
1927	1,447	(NA)	87	(NA)	(NA)	(NA)	(NA)	(NA)	2,902	50	(NA)
1925	1,417	(NA)	86	(NA)	(NA)	(NA)	(NA)	(NA)	2,808	50	(NA)
1923	1,372	(NA)	86	(NA)	(NA)	(NA)	(NA)	(NA)	2,593	53	(NA)
1921	1,306	(NA)	86	(NA)	(NA)	(NA)	(NA)	(NA)	2,283	57	(NA)
1919	1,263	(NA)	86	(NA)	(NA)	(NA)	(NA)	(NA)	2,424	52	(NA)
1914	668	(NA)	88	(NA)	(NA)	(NA)	(NA)	(NA)	1,249	53	(NA)
1909	585	(NA)	89	(NA)	(NA)	(NA)	(NA)	(NA)	1,162	50	(NA)
1904	527	(NA)	91	(NA)	(NA)	(NA)	(NA)	(NA)	1,061	50	(NA)
1899	466	(NA)	93	(NA)	(NA)	(NA)	(NA)	(NA)	958	49	(NA)
1899	474	(NA)	93	(NA)	(NA)	(NA)	(NA)	(NA)	999	47	(NA)
1889	482	(NA)	90	(NA)	(NA)	(NA)	(NA)	(NA)	894	54	(NA)
1879	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1869	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1859	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1849	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

Note: For qualifications to data, see footnotes on table 1.

(NA) Not available.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
	ALL INDUSTRIES, TOTAL.	300 393	359 928	118 699	19 590.1	264 013.1	13 691.0	26 686.7	157 162.7	585 165.6	1358 526.4
20	FOOD AND KINDRED PRODUCTS. . . .	20 616	26 656	11 038	1 520.0	18 543.6	1 072.0	2 112.4	11 730.7	56 062.2	192 911.6
201	MEAT PRODUCTS.	3 967	4 534	1 715	309.1	3 701.5	254.0	499.8	2 817.0	7 478.0	46 276.3
2011	MEATPACKING PLANTS	2 403	2 590	737	146.2	2 110.6	116.5	237.2	1 625.9	4 010.1	31 208.2
2013	SAUSAGES AND OTHER PREPARED MEATS. .	1 213	1 345	570	65.0	891.9	50.1	100.4	626.6	2 039.0	8 465.4
2016	POULTRY DRESSING PLANTS.	313	446	313	86.8	612.3	77.7	143.6	496.3	1 236.9	5 746.1
2017	POULTRY AND EGG PROCESSING	124	153	95	11.1	86.8	9.8	18.6	68.1	192.0	856.6
202	DAIRY PRODUCTS	2 837	3 731	1 617	153.9	1 938.9	85.0	175.6	987.6	5 648.3	26 009.8
2021	CREAMERY BUTTER.	123	138	39	2.3	26.3	1.7	3.6	18.1	74.6	900.5
2022	CHEESE, NATURAL AND PROCESSED. . . .	660	791	293	26.7	287.0	22.2	44.0	223.4	948.8	6 126.0
2023	CONDENSED AND EVAPORATED MILK. . . .	167	266	148	12.3	163.2	9.0	18.9	110.7	805.2	3 188.5
2024	ICE CREAM AND FROZEN DESSERTS. . . .	507	612	229	19.1	247.0	11.4	22.7	130.1	643.7	2 008.6
2026	FLUID MILK	1 516	1 924	908	93.5	1 215.4	40.8	86.3	505.4	3 175.9	13 786.2
203	PRESERVED FRUITS AND VEGETABLES. .	1 752	2 379	1 263	234.7	2 336.0	198.7	377.2	1 792.8	7 684.5	20 332.8
2032	CANNED SPECIALTIES	172	203	88	26.4	296.5	21.5	42.4	224.3	[2]1 142.6	[2]2 829.2
2033	CANNED FRUITS AND VEGETABLES	648	900	519	82.6	789.8	72.6	135.0	636.6	[2]2 542.4	[2]6 662.8
2034	DEHYD. FRUITS, VEGETABLES, SOUPS . .	143	184	87	14.4	153.9	11.7	22.1	111.5	472.6	1 142.4
2035	PICKLES, SAUCES, SALAD DRESSINGS . .	380	438	168	23.5	250.2	18.9	35.7	184.9	[2]986.5	[2]2 996.5
2037	FROZEN FRUITS AND VEGETABLES	187	260	193	46.8	425.9	41.5	78.5	344.7	[2]1 322.5	[2]3 297.5
2038	FROZEN SPECIALTIES	330	394	208	41.0	419.8	32.5	63.4	290.9	[2]1 217.7	[2]3 404.4
204	GRAIN MILL PRODUCTS.	2 094	3 043	1 076	112.8	1 575.6	79.3	165.5	1 034.2	6 625.6	22 344.2
2041	FLOUR, OTHER GRAIN MILL PRODUCTS . .	301	407	173	15.6	222.3	11.3	24.6	153.4	824.5	3 683.3
2043	CFREAL BREAKFAST FOODS	32	48	35	16.4	287.4	13.8	28.8	230.0	1 447.0	2 497.5
2044	RICE MILLING	47	59	39	4.8	61.4	4.0	8.4	40.7	341.0	1 263.4
2045	BLENDED AND PREPARED FLOUR	111	137	60	8.4	104.5	5.8	12.1	68.0	408.7	1 011.7
2046	WET CORN MILLING	24	39	27	10.9	191.1	7.8	15.7	132.2	666.7	2 014.8
2047	DOG, CAT, AND OTHER PET FOOD	218	290	132	17.7	245.5	13.4	27.7	170.3	1 392.9	3 086.7
2048	PREPARED FEEDS, NEC.	1 435	2 063	610	39.1	463.4	23.2	48.2	239.6	1 544.7	8 786.8
205	BAKERY PRODUCTS.	2 797	3 386	1 289	221.7	2 866.1	131.4	258.7	1 525.0	7 073.2	[3]12 235.3
2051	BREAD, CAKE, AND RELATED PRODUCTS. .	2 549	3 062	1 117	178.0	2 335.8	97.4	191.7	1 152.8	5 377.2	9 274.9
2052	COOKIES AND CRACKERS	263	324	172	43.8	530.2	34.0	67.0	372.2	1 695.9	2 960.5
206	SUGAR, CONFECTIONERY PRODUCTS. . .	990	1 198	518	105.4	1 206.2	83.7	164.8	868.3	4 150.9	10 839.8
2061	RAW CANE SUGAR	49	65	55	8.0	95.8	6.3	13.6	70.8	275.7	704.0
2062	CANE SUGAR REFINING.	27	40	27	10.2	168.9	7.2	15.4	116.4	526.2	2 260.0
2063	BEET SUGAR	14	57	52	11.4	143.3	9.9	21.3	119.0	344.9	1 181.7
2065	CONFECTIONERY PRODUCTS	867	962	343	58.0	584.2	47.0	89.1	415.5	2 028.0	4 498.4
2066	CHOCOLATE AND COCOA PRODUCTS	47	56	27	10.0	130.2	7.2	13.9	84.0	640.6	1 629.2
2067	CHEWING GUM.	14	18	14	7.7	83.9	6.0	11.6	62.7	335.5	566.5
207	FATS AND OILS.	591	869	458	41.1	561.4	29.6	64.3	365.4	1 905.2	14 480.0
2074	COTTONSEED OIL MILLS	62	97	71	5.2	51.5	4.1	9.3	35.9	197.4	859.2
2075	SOYBEAN OIL MILLS.	65	121	87	9.4	130.7	6.6	14.7	87.8	373.8	7 580.0
2076	VEGETABLE OIL MILLS, NEC	37	42	19	1.5	17.6	1.1	2.5	12.2	58.4	360.8
2077	ANIMAL AND MARINE FATS AND OILS. . .	384	500	201	12.4	171.2	8.7	19.2	103.8	583.8	1 655.0
2079	SHORTENING AND COOKING OILS. . . .	66	109	80	12.7	190.5	9.0	18.7	125.8	691.8	4 025.0
208	BEVERAGES.	2 440	3 104	1 689	195.1	2 848.9	99.5	200.1	1 368.7	9 900.9	23 329.0
2082	MALT BEVERAGES	81	131	91	44.0	857.5	31.1	61.1	589.1	2 602.3	6 652.6
2083	MALT	27	40	27	1.6	27.4	1.2	2.5	20.0	101.4	499.3
2084	WINES, BRANDY, AND BRANDY SPIRITS. .	233	269	76	9.2	134.1	5.4	10.5	69.6	510.4	1 362.5
2085	DISTILLED LIQUOR, EXCEPT BRANDY. . .	64	104	77	15.7	232.1	12.0	23.8	168.1	[2]1 149.7	[2]2 296.1
2086	BOTTLED AND CANNED SOFT DRINKS . . .	1 758	2 192	1 286	114.1	1 448.8	43.4	89.3	444.8	4 084.5	10 007.2
2087	FLAVORING EXTRACTS, SIRUPS, NEC. . .	319	368	132	10.5	149.1	6.3	12.9	77.1	1 452.6	2 511.3
209	MISC. FOODS, KINDRED PRODUCTS. . .	3 794	4 412	1 413	146.2	1 508.8	110.8	206.4	971.6	5 595.7	17 064.3
2091	CANNED AND CURED SEAFOODS.	215	255	118	16.0	147.0	13.8	25.0	113.4	441.0	1 440.6
2092	FRESH OR FROZEN PACKAGED FISH. . . .	906	990	406	34.3	260.8	29.6	49.7	188.9	705.5	2 664.9
2095	ROASTED COFFEE	133	167	89	10.9	164.8	7.2	15.0	103.2	988.0	5 616.4
2097	MANUFACTURED ICE	543	678	63	5.3	47.8	3.5	6.7	25.5	106.1	149.4
2098	MACARONI AND SPAGHETTI	189	205	68	8.2	96.0	5.7	12.3	56.5	327.0	662.0
2099	FOOD PREPARATIONS, NEC	1 872	2 117	669	71.5	792.6	50.9	97.7	484.1	3 028.1	6 531.0
21	TOBACCO PRODUCTS	155	228	123	60.6	750.7	50.4	92.6	570.7	4 334.1	9 050.6
2111	CIGARETTES	8	14	13	39.0	567.7	32.5	58.9	442.0	3 803.1	6 377.4
2121	CIGARS	94	101	34	7.7	54.9	7.0	12.7	44.0	125.6	242.7
2131	CHEWING AND SMOKING TOBACCO. . . .	28	35	19	3.2	32.1	2.5	4.4	22.0	188.9	354.3
2141	TOBACCO STEMMING AND REDRYING. . . .	38	78	57	10.7	96.1	8.4	16.6	62.6	216.5	2 076.2
22	TEXTILE MILL PRODUCTS.	5 733	7 202	4 131	875.7	7 881.4	764.6	1 523.1	6 202.8	16 104.5	40 550.5
2211	WEAVING MILLS, COTTON.	211	314	192	117.2	1 046.8	107.2	214.3	902.0	1 944.5	4 431.2
2221	WEAV'G MILLS, MANMADE FIBER, SILK. .	267	449	351	151.0	1 428.7	134.6	275.4	1 168.7	2 790.9	6 325.9
2231	WEAVING AND FINISHING MILLS, WOOL. .	153	165	84	14.6	136.6	12.6	25.9	105.8	312.9	583.3
2241	NARROW FABRIC MILLS.	291	335	182	20.8	171.6	18.1	35.7	130.9	350.8	682.9
225	KNITTING MILLS	2 318	2 617	1 511	235.9	1 911.0	205.9	389.4	1 469.9	3 863.0	9 470.0
2251	WOMEN'S HOSIERY, EXCEPT SOCKS. . . .	176	200	119	26.6	191.3	23.8	44.1	156.6	457.0	871.2
2252	HOSIERY, NEC	382	415	257	32.2	218.7	29.0	52.6	179.4	401.5	921.3
2253	KNIT OUTERWEAR MILLS	903	953	551	73.0	582.0	62.7	114.0	422.0	1 159.5	2 335.9
2254	KNIT UNDERWEAR MILLS	80	92	74	25.2	175.2	23.4	42.7	151.8	305.7	648.9
2257	CIRCULAR KNIT FABRIC MILLS	462	530	310	51.8	493.0	44.0	88.2	371.2	1 033.5	3 169.4
2258	WARP KNIT FABRIC MILLS	213	235	153	23.7	226.7	20.0	41.9	169.8	464.8	1 427.6
2259	KNITTING MILLS, NEC.	191	192	47	3.4	24.1	3.1	6.0	19.0	40.9	95.7
226	TEXTILE FINISHING, EXCEPT WOOL . .	602	678	395	72.1	740.0	59.8	123.5	554.0	1 416.7	3 994.3
2261	FINISHING PLANTS, COTTON	194	210	94	20.8	211.4	17.3	35.7	162.2	350.7	759.5
2262	FINISH. PLTS, MANMADE FIBER, SILK. .	248	285	189	37.2	396.2	30.4	63.7	293.4	792.0	2 404.3
2269	FINISHING PLANTS, NEC.	176	183	112	14.1	132.3	12.1	24.1	98.4	274.0	830.6

See footnotes at end of table.

Table 3. **Selected Statistics by Major Industry Group and Industry: 1977 and 1972**—Con.

Code	Industry group and industry	1977--Continued							1972			
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
	ALL INDUSTRIES, TOTAL.	47 459.0	8 499.5	38 959.5	188 436.4	174 865.0	(NA)	(NA)	19 028.7	174 205.5	353 994.0	756 534.3	24 077.7
20	FOOD AND KINDRED PRODUCTS. . . .	4 214.9	908.5	3 306.4	16 984.9	16 416.3	(NA)	(NA)	1 569.3	12 920.2	35 614.8	115 051.5	2 355.0
201	MEAT PRODUCTS.	532.7	144.7	387.9	1 379.7	1 273.1	(NA)	(NA)	307.7	2 543.6	4 960.9	31 477.9	299.6
2011	MEATPACKING PLANTS	236.7	63.6	173.1	700.1	651.2	98	84	157.5	1 532.1	2 968.1	23 003.4	167.7
2013	SAUSAGES AND OTHER PREPARED MEATS. .	151.6	40.4	111.2	406.4	375.1	97	60	58.1	542.2	1 099.9	4 632.4	74.0
2016	POULTRY DRESSING PLANTS.	126.1	36.6	89.5	206.8	188.3	99	92	77.6	391.6	724.4	3 254.1	45.5
2017	POULTRY AND EGG PROCESSING	18.3	4.2	14.1	66.3	58.6	99	73	14.6	77.5	168.5	588.1	12.4
202	DAIRY PRODUCTS	389.0	89.3	299.7	1 180.2	1 096.9	(NA)	(NA)	188.7	1 596.4	4 054.1	16 311.5	274.7
2021	CREAMERY BUTTER.	8.3	1.9	6.4	24.2	25.4	80	61	4.0	31.0	82.3	808.3	7.8
2022	CHEESE, NATURAL AND PROCESSED. . . .	57.2	12.9	44.3	550.4	528.3	91	93	25.2	186.3	492.3	3 195.0	49.9
2023	CONDENSED AND EVAPORATED MILK. . . .	56.2	12.1	44.2	175.0	164.4	79	76	12.3	108.3	467.3	1 667.8	32.1
2024	ICE CREAM AND FROZEN DESSERTS. . . .	56.8	20.3	36.4	126.6	116.9	94	75	21.1	184.7	459.8	1 244.7	35.8
2026	FLUID MILK	210.5	42.0	168.5	304.0	261.8	88	94	126.1	1 086.1	2 552.4	9 395.7	149.2
203	PRESERVED FRUITS AND VEGETABLES. .	470.5	104.8	365.7	4 537.7	4 193.5	(NA)	(NA)	233.1	1 533.5	4 514.4	11 478.6	358.4
2032	CANNED SPECIALTIES	46.7	11.2	35.5	527.8	508.4	80	89	29.1	217.8	814.6	1 876.6	44.1
2033	CANNED FRUITS AND VEGETABLES	147.1	33.3	113.8	2 233.5	2 062.1	90	89	89.8	559.9	1 625.1	4 043.8	113.1
2034	DEHYD. FRUITS, VEGETABLES, SOUPS . .	52.5	15.6	36.9	281.9	267.0	94	88	12.4	84.3	235.7	607.3	18.9
2035	PICKLES, SAUCES, SALAD DRESSINGS . .	52.3	11.7	40.6	447.8	426.7	69	86	20.8	146.2	428.0	1 166.7	43.4
2037	FROZEN FRUITS AND VEGETABLES	87.7	14.1	73.6	724.4	640.3	89	89	42.8	261.2	694.6	1 848.8	57.8
2038	FROZEN SPECIALTIES	84.1	18.9	65.2	322.2	288.9	93	93	38.3	264.1	716.3	1 935.5	81.0
204	GRAIN MILL PRODUCTS.	620.0	126.2	493.8	1 714.5	1 674.5	(NA)	(NA)	111.4	1 012.8	3 698.7	12 162.2	266.6
2041	FLOUR, OTHER GRAIN MILL PRODUCTS . .	52.4	15.2	37.2	263.2	297.8	98	71	16.1	152.8	509.8	2 380.0	30.0
2043	CEREAL BREAKFAST FOODS	79.8	10.8	69.0	152.1	150.3	74	93	12.9	140.9	688.4	1 125.5	24.9
2044	RICE MILLING	40.0	11.5	28.5	411.4	329.4	100	96	4.0	30.9	148.3	680.6	6.3
2045	BLENDED AND PREPARED FLOUR	17.6	5.8	11.8	80.6	72.3	94	75	7.9	74.9	306.8	704.6	13.7
2046	WET CORN MILLING	232.2	34.2	198.0	158.4	169.8	94	93	12.1	137.7	331.2	832.3	59.7
2047	DOG, CAT, AND OTHER PET FOOD	67.2	13.4	53.7	200.7	193.8	92	88	14.3	135.1	613.8	1 401.9	61.1
2048	PREPARED FEEDS, NEC.	130.9	35.3	95.6	448.2	461.0	96	95	44.0	340.5	1 100.5	5 037.1	70.8
205	BAKERY PRODUCTS.	365.4	78.4	287.1	407.1	382.5	(NA)	(NA)	234.6	2 029.0	4 537.0	7 895.5	207.3
2051	BREAD, CAKE, AND RELATED PRODUCTS. .	279.9	52.2	227.6	235.1	220.6	99	98	193.5	1 692.2	3 518.1	6 132.0	170.6
2052	COOKIES AND CRACKERS	85.6	26.1	59.4	172.0	161.9	94	94	41.1	336.9	1 018.9	1 763.5	36.7
206	SUGAR, CONFECTIONERY PRODUCTS. . .	313.0	60.3	252.6	1 661.8	1 551.8	(NA)	(NA)	107.1	831.5	2 472.9	6 620.1	186.2
2061	RAW CANE SUGAR	43.4	4.0	39.3	107.9	97.3	100	99	7.1	60.7	151.7	406.5	28.8
2062	CANE SUGAR REFINING.	53.4	10.8	42.7	345.1	275.9	99	100	10.9	119.5	383.9	1 742.7	23.6
2063	BEET SUGAR	43.5	4.6	38.9	467.1	469.2	99	99	11.5	92.3	310.5	880.2	34.9
2065	CONFECTIONERY PRODUCTS	115.5	25.9	89.5	450.2	442.6	95	94	60.7	422.2	1 115.7	2 472.5	53.4
2066	CHOCOLATE AND COCOA PRODUCTS	35.0	11.2	23.8	175.1	139.2	94	94	10.0	83.3	282.6	735.5	26.5
2067	CHEWING GUM.	22.1	3.7	18.4	116.4	127.6	92	77	6.9	53.6	228.4	382.6	19.0
207	FATS AND OILS.	208.1	37.3	170.9	1 484.2	1 972.7	(NA)	(NA)	40.3	366.4	1 290.5	6 908.8	121.4
2074	COTTONSEED OIL MILLS	13.0	2.9	10.0	195.4	249.6	88	89	5.5	34.2	88.2	458.7	9.9
2075	SOYBEAN OIL MILLS.	72.3	14.1	58.2	804.9	1 205.9	87	98	9.1	82.4	350.0	3 357.2	41.9
2076	VEGETABLE OIL MILLS, NEC	7.4	2.1	5.3	89.3	83.1	86	58	1.2	11.6	44.8	261.0	3.1
2077	ANIMAL AND MARINE FATS AND OILS. . .	53.3	8.9	44.3	70.2	54.0	94	68	11.6	106.0	296.7	764.7	31.0
2079	SHORTENING AND COOKING OILS.	62.1	9.2	53.0	324.3	380.1	89	77	12.9	133.7	512.6	2 068.1	35.5
208	BEVERAGES.	993.9	197.0	796.8	2 940.0	2 759.8	(NA)	(NA)	212.3	2 032.7	6 689.0	13 869.4	468.2
2082	MALT BEVERAGES	410.3	74.8	335.5	444.6	406.5	100	100	51.5	652.8	1 993.6	4 054.4	155.6
2083	MALT	39.6	19.5	20.1	134.2	183.0	100	100	1.7	20.0	55.0	226.3	7.9
2084	WINES, BRANDY, AND BRANDY SPIRITS. .	51.1	13.6	37.6	559.5	513.5	98	97	9.4	91.5	407.9	865.0	43.7
2085	DISTILLED LIQUOR, EXCEPT BRANDY. . .	36.3	9.8	26.5	1 027.9	996.6	98	98	18.4	183.1	1 024.0	1 797.9	32.8
2086	BOTTLED AND CANNED SOFT DRINKS . . .	423.6	72.5	351.0	551.7	467.2	98	97	121.1	984.4	2 336.7	5 453.8	207.1
2087	FLAVORING EXTRACTS, SIRUPS, NEC. . .	33.1	6.9	26.2	222.1	193.1	92	86	10.1	100.9	871.9	1 472.0	21.1
209	MISC. FOODS, KINDRED PRODUCTS. . .	322.4	70.5	251.9	1 679.9	1 511.5	(NA)	(NA)	134.2	974.2	3 397.3	8 335.5	172.5
2091	CANNED AND CURED SEAFOODS.	28.1	8.9	19.2	311.1	256.6	81	96	16.0	99.0	231.4	809.8	15.5
2092	FRESH OR FROZEN PACKAGED FISH. . . .	56.8	19.0	37.8	376.7	313.3	97	97	25.0	129.6	287.5	1 084.4	17.8
2095	ROASTED COFFEE	41.9	1.4	40.4	405.3	383.9	96	98	12.9	131.5	825.8	2 328.7	31.5
2097	MANUFACTURED ICE	16.9	5.2	11.6	4.4	3.3	99	99	6.8	42.6	91.7	116.4	8.9
2098	MACARONI AND SPAGHETTI	12.6	3.3	9.2	48.4	45.1	99	83	7.3	59.4	155.7	348.3	7.1
2099	FOOD PREPARATIONS, NEC	166.2	32.6	133.6	534.1	509.4	89	83	66.2	512.1	1 805.2	3 647.9	91.8
21	TOBACCO PRODUCTS	181.5	56.7	124.7	3 711.9	3 615.2	(NA)	(NA)	66.3	502.1	2 637.2	5 920.2	133.2
2111	CIGARETTES	118.0	41.2	76.8	2 652.2	2 564.7	97	99	38.1	344.8	2 188.4	3 744.6	101.5
2121	CIGARS	3.3	.3	3.0	57.8	54.9	(D)	92	13.5	68.2	191.9	338.7	5.4
2131	CHEWING AND SMOKING TOBACCO.	7.3	1.9	5.4	99.8	94.7	97	75	3.3	23.0	103.2	180.2	12.1
2141	TOBACCO STEMMING AND REDRYING. . . .	52.8	13.3	39.6	902.2	900.9	(D)	94	11.4	66.0	153.6	1 656.8	14.1
22	TEXTILE MILL PRODUCTS.	1 223.5	198.9	1 024.5	5 509.9	5 103.5	(NA)	(NA)	952.6	6 051.0	11 715.8	28 063.9	1 127.4
2211	WEAVING MILLS, COTTON.	187.2	32.8	154.4	657.8	553.9	84	66	121.3	745.2	1 256.3	2 660.6	72.7
2221	WEAVING MILLS, MANMADE FIBER, SILK. .	260.2	23.3	236.9	871.0	834.8	86	74	149.7	979.4	1 831.6	3 856.6	136.2
2231	WEAVING AND FINISHING MILLS, WOOL. .	14.9	4.0	11.0	111.0	96.2	83	80	19.4	132.1	239.4	450.1	11.6
2241	NARROW FABRIC MILLS.	16.2	4.0	12.1	109.3	106.1	96	97	27.1	162.3	289.0	566.2	11.2
225	KNITTING MILLS	245.2	48.8	196.4	1 315.4	1 218.8	(NA)	(NA)	276.5	1 647.0	3 180.7	7 703.3	401.6
2251	WOMEN'S HOSIERY, EXCEPT SOCKS. . . .	16.6	3.9	12.6	122.9	119.8	91	95	49.5	247.4	438.8	984.7	15.9
2252	HOSIERY, NEC	14.8	3.6	11.3	127.3	118.8	96	96	32.6	159.7	295.2	600.6	12.5
2253	KNIT OUTERWEAR MILLS	49.9	5.3	44.6	393.4	342.5	90	53	74.4	430.4	799.5	1 703.8	45.9
2254	KNIT UNDERWEAR MILLS	14.5	4.2	10.2	131.3	116.8	80	86	26.0	134.6	251.5	544.6	7.0
2257	CIRCULAR KNIT FABRIC MILLS	91.6	11.5	80.0	316.2	307.2	90	88	68.1	492.6	1 036.0	2 808.8	270.1
2258	WARP KNIT FABRIC MILLS	56.3	20.1	36.2	209.0	198.8	93	83	22.0	159.2	317.8	987.7	48.2
2259	KNITTING MILLS, NEC.	1.5	.2	1.4	15.2	14.8	97	81	3.9	23.1	41.8	73.1	2.0
226	TEXTILE FINISHING, EXCEPT WOOL . .	125.2	20.6	104.6	434.6	396.7	(NA)	(NA)	79.5	564.0	1 113.9	2 625.8	115.5
2261	FINISHING PLANTS, COTTON	24.8	3.1	21.6	80.1	68.2	83	39	25.7	177.2	322.0	623.3	31.5
2262	FINISH. PLTS, MANMADE FIBER, SILK. .	75.9	12.2	63.6	266.5	258.4	80	57	35.2	263.2	521.5	1 365.2	48.8
2269	FINISHING PLANTS, NEC.	24.6	5.3	19.4	88.0	70.1	95	43	18.5	123.5	270.4	637.3	35.2

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
227	FLOOR COVERING MILLS	533	592	285	55.8	556.7	44.3	91.4	379.7	1 530.1	4 774.5
2271	WOVEN CARPETS AND RUGS	71	71	16	2.8	24.8	2.5	4.7	20.0	47.1	138.7
2272	TUFTED CARPETS AND RUGS	397	449	251	50.2	506.5	39.4	82.2	341.1	1 438.2	4 520.7
2279	CARPETS AND RUGS, NEC	72	72	18	2.8	25.3	2.4	4.5	18.6	44.8	115.2
228	YARN AND THREAD MILLS	529	798	508	140.5	1 184.4	127.3	258.2	994.3	2 254.5	6 114.4
2281	YARN MILLS, EXCEPT WOOL	274	456	370	93.0	782.7	85.6	175.2	675.5	1 480.3	3 864.9
2282	THROWING AND WINDING MILLS	170	196	148	30.5	262.3	27.1	54.5	210.4	490.4	1 510.1
2283	WOOL YARN MILLS	71	76	43	4.1	33.1	3.7	7.3	27.3	81.8	194.9
2284	THREAD MILLS	58	70	47	12.8	106.3	10.9	21.1	81.1	201.9	544.4
229	MISCELLANEOUS TEXTILE GOODS	1 150	1 254	523	67.9	705.6	54.8	109.2	497.5	1 641.1	4 173.9
2291	FELT GOODS, EXC. WOVEN FELT, HATS	37	46	27	4.3	50.7	3.3	6.7	33.1	103.0	197.7
2292	LACE GOODS	68	71	24	2.2	17.9	1.9	3.6	14.0	27.7	45.9
2293	PADDINGS AND UPHOLSTERY FILLING	113	120	56	5.2	52.9	4.1	8.4	36.4	124.5	251.8
2294	PROCESSED TEXTILE WASTE	95	99	39	3.7	31.2	3.1	6.3	23.1	61.7	178.4
2295	COATED FABRICS, NOT RUBBERIZED	175	191	109	13.6	182.3	9.9	20.9	117.1	413.1	1 059.0
2296	TIRE CORD AND FABRIC	8	20	20	9.6	94.7	8.5	16.2	78.1	242.1	1 013.2
2297	NONWOVEN FABRICS	81	100	74	13.0	139.8	10.4	21.1	100.2	386.0	864.4
2298	CORDAGE AND TWINE	151	171	84	9.5	79.5	7.9	14.2	53.7	173.8	332.2
2299	TEXTILE GOODS, NEC	432	436	90	6.7	56.6	5.7	11.8	41.8	109.2	231.1
23	APPAREL, OTHER TEXTILE PRODS	23 754	26 505	11 932	1 334.3	9 658.6	1 156.6	2 037.6	7 252.6	19 671.3	40 245.1
2311	MEN'S AND BOYS' SUITS AND COATS	619	737	467	98.7	822.2	86.2	152.9	645.4	1 574.4	2 767.5
232	MEN'S AND BOYS' FURNISHINGS	2 121	3 013	2 129	364.5	2 340.1	323.4	575.3	1 863.5	4 935.2	10 003.2
2321	MEN'S, BOYS' SHIRTS, NIGHTWEAR	669	928	679	114.7	711.3	103.0	184.1	569.9	1 445.7	2 934.6
2322	MEN'S AND BOYS' UNDERWEAR	56	76	59	15.1	92.2	13.7	23.8	79.0	218.2	419.8
2323	MEN'S AND BOYS' NECKWEAR	198	207	81	6.3	57.5	5.1	8.7	33.4	117.5	223.8
2327	MEN'S AND BOYS' SEPARATE TROUSERS	404	514	335	70.9	474.0	61.9	107.6	372.0	845.6	1 718.0
2328	MEN'S AND BOYS' WORK CLOTHING	347	656	575	113.7	719.4	101.6	183.7	589.9	1 765.4	3 641.9
2329	MEN'S AND BOYS' CLOTHING, NEC	553	632	400	43.8	285.8	38.1	67.4	219.3	542.8	1 065.1
233	WOMEN'S AND MISSES' OUTERWEAR	11 121	11 834	5 556	447.5	3 152.8	387.3	660.9	2 304.2	6 429.8	12 720.3
2331	WOMEN'S, MISSES' BLOUSES, WAISTS	1 292	1 415	952	83.3	569.0	73.8	125.0	424.3	1 192.5	2 333.6
2335	WOMEN'S AND MISSES' DRESSES	6 753	6 953	2 473	175.3	1 197.1	153.0	261.0	882.5	2 233.7	4 188.6
2337	WOMEN'S, MISSES' SUITS AND COATS	1 558	1 672	1 067	84.7	654.0	72.7	123.3	468.5	1 429.6	2 912.9
2339	WOMEN'S, MISSES' OUTERWEAR, NEC	1 625	1 794	1 064	104.1	732.7	87.9	151.5	528.9	1 574.0	3 285.1
234	WOMEN'S, CHILDREN'S UNDERGARMS	693	878	595	91.8	613.2	78.6	139.6	448.9	1 249.7	2 430.8
2341	WOMEN'S AND CHILDREN'S UNDERWEAR	548	698	479	72.9	472.1	63.4	112.6	359.8	915.3	1 780.8
2342	BRASSIERES AND ALLIED GARMENTS	150	180	116	18.9	141.1	15.2	27.0	89.1	334.4	650.0
235	HATS, CAPS, AND MILLINERY	381	409	169	15.1	105.2	13.3	23.8	79.1	185.5	359.9
2351	MILLINERY	151	151	47	2.7	20.2	2.2	3.7	13.7	32.8	75.1
2352	HATS AND CAPS, EXCEPT MILLINERY	230	258	122	12.4	85.1	11.1	20.1	65.3	152.7	284.8
236	CHILDREN'S OUTERWEAR	844	1 002	686	71.2	459.1	61.2	107.6	348.9	879.2	1 717.3
2361	CHILDREN'S DRESSES AND BLOUSES	455	519	374	35.2	228.4	30.4	52.5	169.7	444.6	824.7
2363	CHILDREN'S COATS AND SUITS	108	120	70	6.7	45.8	5.7	9.7	35.1	90.2	173.8
2369	CHILDREN'S OUTERWEAR, NEC	307	363	242	29.3	184.9	25.1	45.4	144.1	344.4	718.8
2371	FUR GOODS	620	620	48	4.0	51.5	3.2	5.1	36.2	112.8	383.4
238	MISC. APPAREL AND ACCESSORIES	1 207	1 284	593	56.3	407.5	47.9	84.8	288.2	845.3	1 649.5
2381	FABRIC DRESS AND WORK GLOVES	100	132	92	10.9	69.0	9.9	18.0	56.3	160.9	312.4
2384	ROBES AND DRESSING GOWNS	137	151	98	9.5	64.3	8.2	14.7	47.8	139.5	288.3
2385	WATERPROOF OUTERGARMENTS	157	167	105	12.0	89.4	10.1	17.9	61.6	194.4	348.8
2386	LEATHER AND SHEEP LINED CLOTHING	236	239	80	6.7	54.7	5.9	10.4	41.1	94.8	214.1
2387	APPAREL BELTS	281	284	119	9.4	76.1	7.3	12.6	44.6	150.3	286.9
2389	APPAREL AND ACCESSORIES, NEC	304	311	99	7.8	54.0	6.5	11.2	36.9	105.4	199.0
239	MISC. FABRICATED TEXTILE PRODS	6 444	6 728	1 689	185.2	1 706.9	155.5	287.6	1 238.3	3 459.4	8 213.2
2391	CURTAINS AND DRAPERIES	1 650	1 712	324	31.7	224.7	27.2	47.9	163.6	407.3	1 013.1
2392	HOUSEFURNISHINGS, NFC	980	1 051	403	47.5	366.4	39.8	75.4	260.0	782.9	2 294.0
2393	TEXTILE BAGS	211	228	90	8.2	66.7	6.8	12.9	46.8	122.2	321.8
2394	CANVAS AND RELATED PRODUCTS	987	1 003	148	13.9	121.6	11.0	19.3	75.1	237.4	486.8
2395	PLEATING AND STITCHING	770	778	206	16.1	130.9	13.2	22.9	89.0	281.8	620.2
2396	AUTOMOTIVE AND APPAREL TRIMMINGS	686	715	188	30.9	476.4	26.3	51.7	374.0	1 000.2	2 166.3
2397	SCHIFFLI MACHINE EMBROIDERIES	357	363	58	6.0	56.3	5.3	10.4	42.5	96.7	158.0
2399	FABRICATED TEXTILE PRODUCTS, NEC	845	878	272	31.1	263.8	26.0	47.1	187.4	531.0	1 152.9
24	LUMBER AND WOOD PRODUCTS	34 962	37 302	7 056	692.4	7 424.7	594.8	1 147.6	5 795.0	16 222.9	39 919.4
2411	LOGGING CAMPS, LOG CONTRACTORS	15 344	15 469	708	83.3	1 009.0	74.5	127.7	840.1	2 418.7	6 230.1
242	SAWMILLS AND PLANING MILLS	8 263	9 000	2 273	211.3	2 228.3	187.8	375.8	1 849.0	4 975.0	11 969.3
2421	SAWMILLS, PLANING MILLS, GENERAL	6 966	7 544	1 827	175.2	1 943.0	155.8	315.6	1 622.7	4 452.8	10 866.7
2426	HARDWOOD DIMENSION AND FLOORING	845	890	345	29.1	225.0	25.8	49.8	177.5	413.1	850.0
2429	SPECIAL PRODUCT SAWMILLS, NEC	522	566	101	7.0	60.3	6.1	10.4	48.8	109.1	252.6
243	MILLWORK, PLYWOOD, STRUC. MEMBS.	5 710	6 149	1 878	197.1	2 216.4	167.4	328.8	1 714.9	4 700.4	11 381.9
2431	MILLWORK	2 209	2 333	692	68.6	742.2	56.6	108.4	542.0	1 497.9	3 928.1
2434	WOOD KITCHEN CABINETS	2 451	2 583	510	46.2	481.1	38.7	72.3	352.3	868.6	1 590.8
2435	HARDWOOD VENEER AND PLYWOOD	274	321	227	22.3	211.5	19.1	37.9	162.0	420.2	1 250.4
2436	SOFTWOOD VENEER AND PLYWOOD	129	256	224	46.2	634.6	41.9	89.4	556.9	1 583.7	3 804.8
2439	STRUCTURAL WOOD MEMBERS, NEC	620	656	225	13.8	147.0	11.0	20.8	101.6	330.0	807.7
244	WOOD CONTAINERS	1 882	1 949	540	37.8	299.6	33.4	61.3	233.7	539.7	1 217.1
2441	NAILED WOOD BOXES AND SHOOK	391	396	110	8.6	68.6	7.5	13.7	53.6	116.2	263.3
2448	WOOD PALLETS AND SKIDS	1 267	1 290	348	20.3	163.8	17.9	32.1	126.3	303.1	698.0
2449	WOOD CONTAINERS, NEC	238	263	82	8.9	67.2	8.0	15.5	53.7	120.4	255.8
245	WOOD BUILDINGS AND MOBILE HOMES	803	1 165	752	79.5	858.2	63.0	121.1	576.2	1 789.1	5 147.9

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
227	FLOOR COVERING MILLS	82.5	12.1	70.4	753.5	694.2	(NA)	(NA)	59.9	415.3	1 076.0	3 153.0	74.7
2271	WOVEN CARPETS AND RUGS	1.1	.4	.8	26.9	23.9	(D)	81	6.5	44.5	93.2	212.3	3.2
2272	TUFTED CARPETS AND RUGS	78.7	11.1	67.6	696.8	644.1	96	99	50.1	348.0	926.8	2 775.2	67.1
2279	CARPETS AND RUGS, NEC	2.6	.6	2.0	29.9	26.2	(D)	74	3.3	23.6	58.2	165.5	4.4
228	YARN AND THREAD MILLS	180.0	23.9	156.1	616.0	592.1	(NA)	(NA)	147.5	866.1	1 579.5	4 242.8	221.7
2281	YARN MILLS, EXCEPT WOOL	114.4	13.5	101.0	363.6	362.2	92	72	89.6	516.3	867.2	2 248.3	96.3
2282	THROWING AND WINDING MILLS	51.1	8.3	42.9	132.3	122.1	92	55	38.0	230.9	477.8	1 427.6	113.7
2283	WOOL YARN MILLS	2.7	.2	2.5	17.4	18.7	90	71	8.3	49.7	92.7	221.4	4.2
2284	THREAD MILLS	11.8	2.0	9.8	102.7	89.2	96	91	11.7	69.2	141.8	345.4	7.5
229	MISCELLANEOUS TEXTILE GOODS	112.0	29.4	82.6	641.3	610.5	(NA)	(NA)	71.9	539.7	1 149.4	2 813.1	82.3
2291	FELT GOODS, EXC. WOVEN FELT, HATS	5.7	1.5	4.3	36.3	33.0	82	82	5.0	38.3	80.5	146.5	2.8
2292	LACE GOODS	1.0	.2	.8	12.6	11.7	98	98	2.9	17.3	29.4	47.1	1.7
2293	PADDINGS AND UPHOLSTERY FILLING	5.8	1.9	4.0	19.6	19.1	92	84	4.4	34.2	64.5	134.6	2.9
2294	PROCESSED TEXTILE WASTE	5.8	1.9	3.9	27.5	26.2	98	95	3.6	22.2	50.9	133.8	3.2
2295	COATED FABRICS, NOT RUBBERIZED	26.0	7.8	18.2	190.0	188.4	87	89	18.0	167.8	382.4	865.8	29.6
2296	TIRE CORD AND FABRIC	7.0	.5	6.6	126.7	130.0	90	99	10.0	70.0	145.8	685.1	8.8
2297	NONWOVEN FABRICS	41.1	10.5	30.5	121.5	104.0	86	66	10.8	80.6	191.8	397.4	15.0
2298	CORDAGE AND TWINE	6.5	1.7	4.9	79.4	73.4	90	95	9.0	55.4	96.3	191.0	4.9
2299	TEXTILE GOODS, NEC	13.0	3.5	9.4	27.8	24.7	96	68	8.3	53.9	107.7	211.8	13.4
23	APPAREL, OTHER TEXTILE PRODS	456.7	114.0	342.6	5 535.8	5 125.3	(NA)	(NA)	1 368.3	7 212.0	13 487.5	27 809.2	363.5
2311	MEN'S AND BOYS' SUITS AND COATS	25.8	5.8	20.0	470.5	416.8	93	92	124.8	770.3	1 342.2	2 396.9	22.5
232	MEN'S AND BOYS' FURNISHINGS	118.3	32.2	86.1	1 547.6	1 409.0	(NA)	(NA)	363.4	1 692.3	3 241.6	6 904.6	90.2
2321	MEN'S, BOYS' SHIRTS, NIGHTWEAR	25.9	6.2	19.7	501.4	442.6	92	92	113.4	514.9	1 003.8	2 104.3	24.1
2322	MEN'S AND BOYS' UNDERWEAR	2.6	.5	2.0	55.1	50.8	87	91	16.0	68.6	130.9	239.3	5.7
2323	MEN'S AND BOYS' NECKWEAR	2.6	.8	1.8	29.6	26.3	100	97	11.1	70.0	143.4	294.9	4.0
2327	MEN'S AND BOYS' SEPARATE TROUSERS	22.8	5.0	17.9	281.9	279.8	84	88	91.3	439.3	784.9	1 745.0	22.2
2328	MEN'S AND BOYS' WORK CLOTHING	44.1	13.8	30.3	477.7	427.4	89	94	89.6	389.0	784.8	1 738.0	24.1
2329	MEN'S AND BOYS' CLOTHING, NEC	20.2	5.9	14.3	201.9	182.2	83	80	41.9	210.4	393.8	783.2	10.1
233	WOMEN'S AND MISSES' OUTERWEAR	133.6	36.9	96.7	1 338.2	1 259.4	(NA)	(NA)	432.6	2 269.6	4 102.0	8 278.2	98.3
2331	WOMEN'S, MISSES' BLOUSES, WAISTS	24.0	4.9	19.2	222.5	197.3	85	75	63.0	328.1	592.4	1 254.9	30.0
2335	WOMEN'S AND MISSES' DRESSES	45.2	10.8	34.5	386.1	363.0	95	95	211.6	1 076.9	1 888.7	3 580.0	32.6
2337	WOMEN'S, MISSES' SUITS AND COATS	22.0	7.5	14.5	297.0	291.1	80	83	75.9	446.7	839.8	1 805.3	16.4
2339	WOMEN'S, MISSES' OUTERWEAR, NEC	42.4	13.8	28.5	432.6	408.0	80	81	82.1	417.9	781.0	1 638.0	19.3
234	WOMEN'S, CHILDREN'S UNDERGARMS	22.9	6.3	16.7	397.7	373.1	(NA)	(NA)	105.4	524.8	1 049.0	1 978.9	24.0
2341	WOMEN'S AND CHILDREN'S UNDERWEAR	18.7	5.5	13.2	275.9	256.5	95	87	77.5	372.0	709.0	1 331.9	19.3
2342	BRASSIERES AND ALLIED GARMENTS	4.2	.8	3.5	121.9	116.7	92	99	28.0	152.8	340.0	647.0	4.6
235	HATS, CAPS, AND MILLINERY	4.1	1.2	2.9	57.5	53.4	(NA)	(NA)	14.5	72.6	133.4	229.1	2.2
2351	MILLINERY	.2	(Z)	.2	5.8	5.7	99	(D)	3.2	17.0	33.2	58.1	.3
2352	HATS AND CAPS, EXCEPT MILLINERY	3.9	1.2	2.7	51.7	47.6	96	94	11.3	55.6	100.2	171.0	1.9
236	CHILDREN'S OUTERWEAR	14.4	2.5	12.0	245.7	239.5	(NA)	(NA)	74.8	367.5	709.1	1 421.9	19.8
2361	CHILDREN'S DRESSES AND BLOUSES	6.4	1.2	5.2	106.5	94.9	89	87	35.4	174.4	335.8	655.2	12.9
2363	CHILDREN'S COATS AND SUITS	1.3	.2	1.1	20.7	17.1	87	78	9.2	48.5	90.4	188.5	.8
2369	CHILDREN'S OUTERWEAR, NEC	6.7	1.1	5.6	118.5	127.5	84	77	30.1	144.6	282.9	578.2	6.1
2371	FUR GOODS	.5	.2	.3	46.5	41.3	100	99	4.7	41.2	86.2	220.0	1.1
238	MISC. APPAREL AND ACCESSORIES	20.7	5.2	15.5	274.7	242.9	(NA)	(NA)	61.9	334.6	635.9	1 280.0	14.9
2381	FABRIC DRESS AND WORK GLOVES	3.5	.4	3.1	42.1	39.1	91	84	11.9	56.3	100.3	198.8	1.9
2384	ROBES AND DRESSING GOWNS	3.3	.9	2.5	44.1	38.0	89	93	10.0	50.0	92.5	202.8	2.0
2385	WATERPROOF OUTERGARMENTS	5.6	2.1	3.5	59.6	52.6	91	90	15.4	86.4	168.8	332.1	2.4
2386	LEATHER AND SHEEP LINED CLOTHING	1.6	.6	.9	32.3	25.8	97	91	7.0	40.8	82.1	172.1	2.5
2387	APPAREL BELTS	2.5	.3	2.2	50.9	43.9	88	96	10.3	65.9	132.5	257.5	3.2
2389	APPAREL AND ACCESSORIES, NEC	4.2	1.0	3.2	45.7	43.4	90	95	7.3	35.3	59.7	116.8	2.8
239	MISC. FABRICATED TEXTILE PRODS	116.4	23.7	92.7	1 157.4	1 090.0	(NA)	(NA)	186.2	1 139.1	2 188.2	5 099.5	90.4
2391	CURTAINS AND DRAPERIES	7.2	1.6	5.6	151.2	140.5	95	93	33.9	167.1	302.3	754.9	9.5
2392	HOUSEFURNISHINGS, NEC	26.9	6.3	20.6	393.0	345.7	89	61	50.3	281.9	585.2	1 526.9	29.9
2393	TEXTILE BAGS	5.8	1.4	4.4	59.4	57.6	82	84	7.9	44.0	74.5	255.1	5.5
2394	CANVAS AND RELATED PRODUCTS	8.4	2.2	6.2	101.0	91.5	93	92	12.9	75.9	130.3	276.4	4.0
2395	PLEATING AND STITCHING	9.3	1.8	7.5	82.9	75.5	96	98	16.7	89.2	174.7	308.2	3.2
2396	AUTOMOTIVE AND APPAREL TRIMMINGS	36.1	6.4	29.6	194.3	214.7	98	96	27.6	266.6	530.8	1 133.0	10.4
2397	SCHIFFLI MACHINE EMBROIDERIES	3.3	.4	2.9	10.1	8.9	97	98	5.5	38.9	75.0	120.5	2.2
2399	FABRICATED TEXTILE PRODUCTS, NEC	19.4	3.7	15.7	165.4	155.6	94	89	31.4	175.3	315.5	724.7	25.9
24	LUMBER AND WOOD PRODUCTS	1 562.6	290.9	1 271.6	4 663.8	4 258.1	(NA)	(NA)	691.0	4 985.6	10 310.2	23 829.7	931.2
2411	LOGGING CAMPS, LOG CONTRACTORS	386.5	56.3	330.2	555.8	520.6	97	94	80.0	523.9	1 163.4	2 529.5	157.0
242	SAWMILLS AND PLANING MILLS	584.2	100.0	484.2	1 598.8	1 493.2	(NA)	(NA)	204.4	1 488.4	3 259.3	7 244.3	329.3
2421	SAWMILLS, PLANING MILLS, GENERAL	535.8	86.8	449.0	1 420.6	1 333.7	92	93	166.6	1 272.2	2 906.0	6 470.8	306.8
2426	HARDWOOD DIMENSION AND FLOORING	35.3	9.3	26.0	147.4	125.3	91	92	31.5	173.9	272.1	579.0	16.8
2429	SPECIAL PRODUCT SAWMILLS, NEC	13.1	3.9	9.2	30.8	34.2	98	92	6.4	40.0	80.4	180.8	5.7
243	MILLWORK, PLYWOOD, STRUC. MEMBS.	272.7	58.5	214.2	1 344.9	1 208.3	(NA)	(NA)	190.7	1 474.3	2 908.4	6 703.3	194.8
2431	MILLWORK	81.0	27.6	53.3	605.0	545.3	94	94	70.5	524.5	962.7	2 426.8	57.2
2434	WOOD KITCHEN CABINETS	36.7	11.3	25.5	212.3	187.2	96	96	38.8	286.6	486.7	897.2	28.3
2435	HARDWOOD VENEER AND PLYWOOD	29.6	3.7	25.9	197.7	176.1	91	93	25.1	165.2	340.8	911.8	32.1
2436	SOFTWOOD VENEER AND PLYWOOD	105.6	10.6	95.1	242.6	229.2	88	91	43.7	403.6	935.4	2 011.5	65.4
2439	STRUCTURAL WOOD MEMBERS, NEC	19.7	5.4	14.4	87.3	70.5	94	93	12.6	94.4	182.8	456.0	11.8
244	WOOD CONTAINERS	29.6	6.3	23.3	139.9	134.4	(NA)	(NA)	36.8	203.8	358.8	773.5	21.2
2441	NAILED WOOD BOXES AND SHOOK	5.4	1.3	4.1	31.2	30.2	89	83	10.7	61.1	103.8	237.9	6.4
2448	WOOD PALLETS AND SKIDS	21.3	4.4	17.0	58.1	52.4	90	91	14.3	77.7	140.9	295.4	11.2
2449	WOOD CONTAINERS, NEC	2.9	.6	2.3	50.5	51.8	93	97	11.9	65.0	114.1	240.2	3.6
245	WOOD BUILDINGS AND MOBILE HOMES	110.0	43.0	66.9	422.4	350.0	(NA)	(NA)	97.1	745.4	1 490.9	4 289.0	93.0

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
2451	MOBILE HOMES	308	597	465	50.5	527.6	41.8	80.5	371.8	1 030.5	3 199.3
2452	PREFABRICATED WOOD BUILDINGS	512	568	287	29.0	330.6	21.2	40.6	204.4	758.6	1 948.6
249	MISCELLANEOUS WOOD PRODUCTS	3 292	3 570	905	83.4	813.3	68.8	132.8	581.2	1 799.9	3 973.1
2491	WOOD PRESERVING	366	457	192	12.6	126.1	9.9	19.7	82.9	327.1	962.6
2492	PARTICLEBOARD	36	63	51	6.2	79.1	5.0	10.9	60.3	207.2	452.9
2499	WOOD PRODUCTS, NEC	2 909	3 050	662	64.6	608.1	53.9	102.3	438.0	1 265.5	2 557.6
25	FURNITURE AND FIXTURES	9 421	10 235	3 588	463.8	4 448.3	383.6	736.4	3 191.8	8 921.7	16 978.0
251	HOUSEHOLD FURNITURE	5 585	6 161	2 224	309.7	2 669.2	265.2	505.3	1 998.7	5 212.7	10 392.1
2511	WOOD HOUSEHOLD FURNITURE	2 795	2 983	816	141.0	1 138.8	124.8	245.0	898.7	2 239.9	4 148.8
2512	UPHOLSTERED HOUSEHOLD FURNITURE	1 357	1 473	730	89.1	779.2	75.7	137.6	583.9	1 437.3	2 931.0
2514	METAL HOUSEHOLD FURNITURE	405	448	213	33.2	302.7	27.4	51.6	208.6	637.4	1 307.1
2515	MATTRESSES AND BEDSPRINGS	832	962	355	27.0	279.8	20.6	39.3	175.3	616.6	1 398.5
2517	WOOD TV AND RADIO CABINETS	91	94	51	10.7	89.0	9.3	17.6	70.5	150.4	304.8
2519	HOUSEHOLD FURNITURE, NEC	198	201	59	8.7	79.7	7.5	14.3	61.7	131.0	301.9
252	OFFICE FURNITURE	483	523	233	45.0	542.6	35.1	69.1	375.9	1 236.1	2 009.4
2521	WOOD OFFICE FURNITURE	319	331	119	16.0	165.0	12.8	25.5	110.2	381.3	612.0
2522	METAL OFFICE FURNITURE	167	192	114	29.0	377.6	22.3	43.6	265.7	854.8	1 397.4
2531	PUBLIC BLDG., RELATED FURNITURE	401	420	185	20.0	214.3	15.0	29.2	132.9	414.9	787.4
254	PARTITIONS AND FIXTURES	2 067	2 134	666	57.4	675.1	44.3	85.9	454.2	1 311.0	2 408.8
2541	WOOD PARTITIONS AND FIXTURES	1 572	1 598	394	29.4	352.9	23.0	45.3	241.0	621.4	1 105.8
2542	METAL PARTITIONS AND FIXTURES	508	536	272	28.0	322.2	21.3	40.5	213.2	689.7	1 303.0
259	MISC. FURNITURE AND FIXTURES	964	997	280	31.7	347.0	24.0	46.9	230.1	746.9	1 380.3
2591	DRAPERY HARDWARE, BLINDS, SHADES	435	456	85	13.6	145.6	10.3	20.0	99.1	345.0	675.1
2599	FURNITURE AND FIXTURES, NEC	528	541	195	18.1	201.4	13.7	27.0	131.0	401.9	705.2
26	PAPER AND ALLIED PRODUCTS	4 394	6 545	3 999	628.7	8 942.9	486.3	985.9	6 323.1	22 170.9	52 085.7
2611	PULPMILLS	26	45	42	16.2	293.2	12.5	25.4	220.7	906.1	2 091.1
2621	PAPERMILLS, EXCEPT BUILDING PAPER	171	339	287	127.0	2 167.0	100.4	210.4	1 631.7	5 406.6	12 613.3
2631	PAPERBOARD MILLS	120	249	232	67.6	1 175.8	53.0	112.5	888.0	3 080.7	7 124.3
264	MISC. CONVERTED PAPER PRODUCTS	2 323	2 994	1 435	206.7	2 608.1	158.0	316.1	1 771.3	7 263.0	16 433.2
2641	PAPER COATING AND GLAZING	454	529	239	39.7	551.2	27.2	56.8	335.1	1 507.0	3 392.0
2642	ENVELOPES	182	265	184	22.6	270.0	17.6	34.6	182.4	503.4	990.5
2643	BAGS, EXCEPT TEXTILE BAGS	462	596	355	48.7	584.1	38.8	77.6	411.7	1 349.6	3 482.3
2645	DIE-CUT PAPER AND BOARD	316	371	141	14.3	174.6	11.3	22.7	119.6	429.5	1 057.7
2646	PRESSED AND MOLDED PULP GOODS	25	38	27	4.9	58.8	4.0	8.4	48.7	153.7	240.3
2647	SANITARY PAPER PRODUCTS	72	120	89	34.5	509.1	27.4	54.5	381.8	2 194.5	4 921.2
2648	STATIONERY PRODUCTS	219	242	109	12.6	135.2	9.8	18.5	91.0	291.0	651.7
2649	CONVERTED PAPER PRODUCTS, NEC	783	833	291	29.4	325.1	21.9	43.3	201.1	834.3	1 697.5
265	PAPERBOARD CONTAINERS AND BOXES	1 794	2 860	1 950	204.1	2 601.8	156.5	309.0	1 733.4	5 296.3	13 350.1
2651	FOLDING PAPERBOARD BOXES	452	574	374	44.7	577.8	35.8	71.8	409.8	1 136.8	2 579.0
2652	SETUP PAPERBOARD BOXES	280	312	209	13.1	115.3	11.2	20.6	80.8	211.6	360.5
2653	CORRUGATED AND SOLID FIBER BOXES	863	1 472	1 034	101.5	1 374.8	73.5	146.5	867.0	2 704.1	7 351.1
2654	SANITARY FOOD CONTAINERS	122	193	138	28.7	336.7	22.7	43.5	228.2	836.8	2 048.4
2655	FIBER CANS, DRUMS, SIMILAR PRODS	166	309	195	16.1	197.3	13.4	26.7	147.6	406.9	1 011.1
2661	BUILDING PAPER AND BOARD MILLS	19	58	53	7.0	96.9	5.9	12.5	77.9	218.2	473.7
27	PRINTING AND PUBLISHING	46 604	49 767	9 132	1 092.2	14 024.5	625.8	1 152.8	7 322.1	31 979.5	49 716.2
2711	NEWSPAPERS	7 821	8 867	2 147	349.9	4 306.0	147.2	252.5	1 805.3	9 519.1	13 055.9
2721	PERIODICALS	2 860	2 994	525	69.9	1 019.8	10.6	20.5	115.7	3 762.7	6 056.5
273	BOOKS	2 536	2 694	716	106.4	1 378.5	50.9	97.5	544.2	4 291.1	6 485.7
2731	BOOK PUBLISHING	1 650	1 744	346	59.5	830.2	13.3	24.9	140.1	3 261.9	4 793.9
2732	BOOK PRINTING	897	950	370	46.9	548.2	37.6	72.6	404.1	1 029.2	1 691.8
2741	MISCELLANEOUS PUBLISHING	2 266	2 352	335	42.1	503.0	15.4	27.1	150.3	1 290.7	1 850.9
275	COMMERCIAL PRINTING	26 109	26 815	3 637	356.0	4 701.8	275.1	511.3	3 275.3	8 551.2	15 015.8
2751	COMMERCIAL PRINTING, LETTERPRESS	14 375	14 521	1 059	110.9	1 307.3	88.0	159.6	913.6	2 440.6	4 284.3
2752	COMMERCIAL PRINTING, LITHOGRAPHIC	10 964	11 320	2 362	216.3	2 984.1	163.7	307.4	2 045.7	5 338.4	9 359.7
2753	ENGRAVING AND PLATE PRINTING	511	550	118	9.8	118.9	7.6	13.5	84.5	230.8	314.9
2754	COMMERCIAL PRINTING, GRAVURE	401	424	98	19.0	291.6	15.8	30.8	231.5	541.4	1 056.8
2761	MANIFOLD BUSINESS FORMS	601	795	477	45.3	575.0	33.3	67.3	390.9	1 491.6	2 893.8
2771	GREETING CARD PUBLISHING	155	166	52	18.1	226.8	10.6	21.7	105.8	655.9	1 072.1
278	BLANKBOOKS AND BOOKBINDING	1 343	1 492	576	55.9	579.1	46.1	88.6	418.6	1 148.7	1 656.2
2782	BLANKBOOKS AND LOOSELEAF BINDERS	371	505	288	31.8	338.5	25.2	49.8	235.0	739.9	1 122.6
2789	BOOKBINDING AND RELATED WORK	974	987	288	24.1	240.6	20.9	38.8	183.6	408.8	533.6
279	PRINTING TRADE SERVICES	3 492	3 592	667	48.4	734.6	36.4	66.5	516.0	1 268.4	1 629.4
2791	TYPESETTING	2 370	2 406	389	27.2	364.7	21.7	38.8	271.6	623.4	730.6
2793	PHOTOENGRAVING	440	449	56	5.7	89.3	3.8	6.8	58.4	168.2	218.0
2794	ELECTROTYPING AND STEREOTYPING	40	40	5	.4	6.8	.3	.5	4.6	10.0	13.8
2795	LITHOGRAPHIC PLATEMAKING SERVICES	677	697	217	15.2	273.9	10.6	20.4	181.5	466.8	667.0
28	CHEMICALS AND ALLIED PRODUCTS	8 510	12 173	4 602	880.2	13 839.3	543.6	1 089.7	7 446.2	56 720.6	118 153.6
281	INDUSTRIAL INORGANIC CHEMICALS	550	1 282	490	110.0	1 847.2	67.8	138.6	1 033.4	6 487.2	12 845.0
2812	ALKALIES AND CHLORINE	30	49	33	11.8	215.9	8.0	16.0	136.2	822.5	1 654.8
2813	INDUSTRIAL GASES	109	562	102	7.5	117.2	4.6	9.6	67.0	732.8	1 234.6
2816	INORGANIC PIGMENTS	71	106	66	11.9	179.8	8.0	16.4	110.2	567.9	1 259.9

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
2451	MOBILE HOMES	69.8	27.1	42.7	193.3	165.5	99	99	71.9	547.3	1 033.9	3 242.9	63.4
2452	PREFABRICATED WOOD BUILDINGS	40.2	15.9	24.3	229.1	184.5	98	98	25.2	198.1	457.1	1 046.1	29.6
249	MISCELLANEOUS WOOD PRODUCTS	179.7	26.8	152.9	602.1	551.6	(NA)	(NA)	82.0	549.9	1 129.4	2 290.1	135.7
2491	WOOD PRESERVING	30.3	3.3	27.0	212.5	184.5	97	97	11.3	74.5	175.8	475.8	14.8
2492	PARTICLEBOARD	32.5	3.2	29.3	21.1	21.7	99	95	7.7	65.5	144.5	295.4	34.6
2499	WOOD PRODUCTS, NEC	116.9	20.3	96.5	368.5	345.4	94	93	63.0	410.0	809.1	1 518.9	86.3
25	FURNITURE AND FIXTURES	388.7	119.2	269.4	2 750.3	2 504.7	(NA)	(NA)	462.0	3 205.4	6 097.1	11 320.3	306.2
251	HOUSEHOLD FURNITURE	211.2	60.1	151.1	1 637.3	1 515.4	(NA)	(NA)	317.4	2 023.7	3 860.5	7 409.6	202.6
2511	WOOD HOUSEHOLD FURNITURE	101.9	26.8	75.2	821.5	771.6	94	96	133.8	806.8	1 556.9	2 870.0	93.8
2512	UPHOLSTERED HOUSEHOLD FURNITURE	50.4	16.6	33.9	378.6	341.2	91	96	92.0	605.3	1 104.0	2 104.7	54.7
2514	METAL HOUSEHOLD FURNITURE	22.8	4.7	18.1	217.0	197.9	89	91	34.4	222.5	447.2	890.4	16.9
2515	MATTRESSES AND BEDSPRINGS	14.5	3.7	10.8	155.6	142.7	95	86	31.4	233.7	479.9	1 041.7	20.7
2517	WOOD TV AND RADIO CABINETS	11.1	5.1	6.0	30.5	31.6	92	90	18.9	111.2	176.9	330.2	9.5
2519	HOUSEHOLD FURNITURE, NEC	10.4	3.3	7.1	34.1	30.5	79	84	6.9	44.2	95.6	172.6	7.0
252	OFFICE FURNITURE	67.6	23.8	43.8	344.4	299.6	(NA)	(NA)	39.3	330.0	659.9	1 111.2	31.8
2521	WOOD OFFICE FURNITURE	26.5	12.4	14.1	107.1	88.4	85	90	11.5	80.1	146.7	249.7	7.3
2522	METAL OFFICE FURNITURE	41.1	11.4	29.7	237.2	211.1	94	92	27.8	249.9	513.2	861.5	24.5
2531	PUBLIC BLDG., RELATED FURNITURE	22.3	6.8	15.5	138.3	122.0	88	87	-	-	-	-	-
254	PARTITIONS AND FIXTURES	58.9	19.4	39.5	394.7	351.2	(NA)	(NA)	57.4	483.9	871.0	1 527.7	34.0
2541	WOOD PARTITIONS AND FIXTURES	22.4	7.4	15.0	158.2	141.8	92	88	31.2	268.2	458.6	793.2	14.6
2542	METAL PARTITIONS AND FIXTURES	36.5	12.0	24.5	236.5	209.4	89	91	26.2	215.7	412.4	734.5	19.4
259	MISC. FURNITURE AND FIXTURES	28.7	9.2	19.5	235.7	216.5	(NA)	(NA)	26.5	209.9	409.9	736.5	24.7
2591	DRAPERY HARDWARE, BLINDS, SHADES	16.7	5.8	10.9	115.6	106.4	95	96	12.1	94.4	198.2	364.5	9.9
2599	FURNITURE AND FIXTURES, NEC	12.0	3.3	8.6	120.1	110.1	87	82	14.5	115.5	211.7	372.0	14.8
26	PAPER AND ALLIED PRODUCTS	3 295.0	326.0	2 969.0	5 641.5	5 281.0	(NA)	(NA)	633.4	5 992.1	13 064.1	28 261.9	1 335.3
2611	PULPMILLS	301.1	13.0	288.0	257.0	223.6	86	72	10.6	125.7	306.9	709.9	136.4
2621	PAPERMILLS, EXCEPT BUILDING PAPER	1 115.2	70.3	1 044.8	1 259.5	1 209.8	92	92	129.9	1 439.6	2 909.3	6 385.2	372.3
2631	PAPERBOARD MILLS	933.7	71.4	862.3	537.5	509.1	84	92	68.5	778.2	1 994.4	4 153.5	313.5
264	MISC. CONVERTED PAPER PRODUCTS	507.4	95.2	412.2	1 943.0	1 746.3	(NA)	(NA)	189.1	1 630.0	4 008.2	8 452.4	288.6
2641	PAPER COATING AND GLAZING	98.7	15.2	83.5	451.2	420.5	80	87	37.2	366.6	984.4	1 954.0	52.3
2642	ENVELOPES	22.9	3.5	19.4	122.2	109.9	97	93	22.9	194.6	347.1	620.8	17.4
2643	BAGS, EXCEPT TEXTILE BAGS	93.4	19.4	74.0	424.9	410.8	88	90	48.6	385.5	840.5	1 885.7	53.9
2645	DIE-CUT PAPER AND BOARD	15.3	2.8	12.5	114.3	94.0	88	84	15.2	132.5	301.6	676.3	10.6
2646	PRESSED AND MOLDED PULP GOODS	10.9	1.0	9.9	24.5	22.0	98	99	6.1	51.8	100.6	162.8	7.0
2647	SANITARY PAPER PRODUCTS	199.1	39.0	160.1	409.9	333.8	93	99	26.3	256.1	882.8	2 071.8	119.6
2648	STATIONERY PRODUCTS	15.9	4.1	11.8	118.2	114.4	86	80	14.7	106.3	225.6	450.5	9.3
2649	CONVERTED PAPER PRODUCTS, NEC	51.1	10.1	41.0	277.7	241.0	88	81	18.1	136.6	325.6	630.6	18.5
265	PAPERBOARD CONTAINERS AND BOXES	421.0	73.8	347.2	1 599.4	1 549.0	(NA)	(NA)	223.7	1 907.0	3 598.8	8 104.7	205.5
2651	FOLDING PAPERBOARD BOXES	89.8	14.2	75.5	421.8	402.2	87	91	45.3	398.1	739.7	1 487.0	37.4
2652	SETUP PAPERBOARD BOXES	8.8	2.0	6.8	48.2	46.4	93	87	18.1	111.6	195.9	321.3	6.4
2653	CORRUGATED AND SOLID FIBER BOXES	243.3	43.1	200.1	664.8	668.4	99	99	107.9	976.3	1 736.9	4 308.8	101.5
2654	SANITARY FOOD CONTAINERS	52.4	10.2	42.2	345.5	320.9	87	86	35.1	277.7	659.8	1 419.7	42.3
2655	FIBER CANS, DRUMS, SIMILAR PRODS	26.7	4.3	22.4	119.2	111.1	93	89	17.3	143.3	266.4	568.0	17.9
2661	BUILDING PAPER AND BOARD MILLS	16.6	2.2	14.4	45.0	43.1	93	83	11.6	111.6	246.5	456.2	18.8
27	PRINTING AND PUBLISHING	1 597.8	310.5	1 287.2	4 200.6	3 943.0	(NA)	(NA)	1 056.5	9 831.2	20 209.5	30 146.4	1 047.7
2711	NEWSPAPERS	478.1	93.5	384.6	382.1	371.8	96	100	348.5	3 168.1	6 219.9	8 262.8	359.5
2721	PERIODICALS	78.9	22.4	56.5	349.6	314.7	90	96	66.5	708.5	2 109.9	3 510.6	56.8
273	BOOKS	134.1	25.4	108.8	1 186.0	1 153.7	(NA)	(NA)	98.1	918.9	2 540.3	3 794.5	82.3
2731	BOOK PUBLISHING	79.8	16.3	63.5	992.0	963.4	94	88	57.1	557.7	1 935.8	2 856.8	48.4
2732	BOOK PRINTING	54.3	9.1	45.3	194.0	190.3	85	78	40.9	361.2	604.5	937.7	33.9
2741	MISCELLANEOUS PUBLISHING	39.1	14.1	25.0	139.1	121.7	95	89	38.8	331.2	775.8	1 070.2	22.7
275	COMMERCIAL PRINTING	639.5	114.9	524.6	1 359.8	1 200.1	(NA)	(NA)	344.2	3 277.4	5 695.0	9 329.7	377.8
2751	COMMERCIAL PRINTING, LETTERPRESS	163.0	32.0	131.0	372.7	345.8	89	81	130.1	1 131.7	2 003.0	3 291.8	129.2
2752	COMMERCIAL PRINTING, LITHOGRAPHIC	360.2	56.9	303.3	861.9	747.1	87	88	184.0	1 835.3	3 155.1	5 124.8	220.6
2753	ENGRAVING AND PLATE PRINTING	17.8	3.5	14.3	23.5	20.6	88	92	9.6	80.7	152.4	201.6	5.1
2754	COMMERCIAL PRINTING, GRAVURE	98.5	22.5	76.0	101.7	86.7	91	83	20.0	225.4	372.2	697.6	22.5
2761	MANIFOLD BUSINESS FORMS	82.1	12.5	69.6	336.7	313.7	93	95	38.6	343.6	823.6	1 429.7	45.8
2771	GREETING CARD PUBLISHING	18.8	5.8	13.0	160.6	207.8	78	95	23.5	191.5	527.0	774.4	46.4
278	BLANKBOOKS AND BOOKBINDING	55.3	11.1	44.2	175.9	155.1	(NA)	(NA)	51.7	371.6	686.8	968.2	25.6
2782	BLANKBOOKS AND LOOSELEAF BINDERS	36.0	9.0	27.1	130.2	112.0	86	91	26.6	192.7	390.6	591.1	14.4
2789	BOOKBINDING AND RELATED WORK	19.3	2.2	17.1	45.7	43.1	96	94	25.1	178.9	296.2	377.2	11.2
279	PRINTING TRADE SERVICES	71.7	10.7	61.1	110.8	104.5	(NA)	(NA)	46.6	520.5	831.3	1 006.3	30.6
2791	TYPESETTING	36.7	5.9	30.8	42.5	38.5	97	89	26.0	269.8	426.0	482.8	14.2
2793	PHOTOENGRAVING	7.5	1.2	6.3	13.2	11.6	83	79	9.9	119.3	191.7	229.7	5.4
2794	ELECTROTYPING AND STEREOTYPING	.1	(Z)	.1	.5	.5	79	66	1.7	19.0	28.5	36.8	.5
2795	LITHOGRAPHIC PLATEMAKING SERVICES	27.4	3.5	23.9	54.5	53.8	87	89	8.9	112.4	185.1	257.0	10.5
28	CHEMICALS AND ALLIED PRODUCTS	8 198.9	1 246.3	6 952.6	14 791.3	13 447.5	(NA)	(NA)	836.5	8 730.5	32 413.9	57 349.6	2 728.4
281	INDUSTRIAL INORGANIC CHEMICALS	1 055.5	138.8	916.6	1 305.7	1 161.2	(NA)	(NA)	99.5	1 078.5	3 343.1	6 132.7	333.4
2812	ALKALIES AND CHLORINE	220.0	22.2	197.7	141.8	132.4	63	58	13.3	152.0	455.6	823.2	61.5
2813	INDUSTRIAL GASES	243.0	23.2	219.8	45.6	27.8	97	93	9.6	87.2	466.7	679.3	84.1
2816	INORGANIC PIGMENTS	124.3	11.7	112.5	251.5	240.7	88	84	12.8	134.6	382.6	796.9	38.9

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
2819	INDUSTRIAL INORGANIC CHEM., NEC. . .	345	565	289	78.8	1 334.2	47.3	96.7	720.1	4 363.9	8 695.7
282	PLASTICS MATERIALS, SYNTHETICS . .	373	551	408	157.2	2 470.7	111.3	221.7	1 558.0	7 842.9	20 064.1
2821	PLASTICS MATERIALS AND RESINS. . . .	221	397	310	57.2	985.6	36.7	76.6	575.7	4 142.7	10 818.2
2822	SYNTHETIC RUBBER	56	63	30	10.0	185.2	7.1	14.2	125.7	568.6	1 863.3
2823	CELLULOSIC MANMADE FIBERS.	20	25	10	16.0	213.7	12.6	25.2	151.8	327.2	1 002.8
2824	ORGANIC FIBERS, NONCELLULOSIC. . . .	37	66	58	74.0	1 086.1	54.8	105.8	704.8	2 804.4	6 379.7
283	DRUGS.	1 020	1 243	482	156.4	2 459.6	80.3	157.5	997.2	9 939.9	14 247.8
2831	BIOLOGICAL PRODUCTS.	250	310	113	15.7	210.2	8.8	17.3	90.5	563.4	898.5
2833	MEDICINALS AND BOTANICALS.	153	177	76	14.4	219.9	8.4	17.1	127.2	1 162.2	1 889.9
2834	PHARMACEUTICAL PREPARATIONS. . . .	655	756	293	126.4	2 029.5	63.1	123.1	779.4	8 214.4	11 459.4
284	SOAPS, CLEANERS, TOILET GOODS. . .	2 252	2 528	739	111.6	1 526.1	71.1	138.9	822.8	9 407.2	16 330.7
2841	SOAP AND OTHER DETERGENTS.	554	638	225	32.1	521.6	20.5	41.0	308.1	2 867.5	5 671.4
2842	POLISHES AND SANITATION GOODS. . . .	946	1 022	238	22.1	274.7	14.1	27.2	148.5	1 667.2	3 157.3
2843	SURFACE ACTIVE AGENTS.	148	175	84	6.6	101.9	3.7	7.7	47.3	345.7	944.8
2844	TOILET PREPARATIONS.	644	693	192	50.9	627.9	32.8	62.9	318.9	4 526.7	6 557.2
2851	PAINTS AND ALLIED PRODUCTS	1 288	1 579	653	61.4	882.6	33.0	66.2	394.1	2 821.3	6 629.7
286	INDUSTRIAL ORGANIC CHEMICALS . . .	574	879	510	152.8	2 794.2	97.8	200.1	1 625.3	12 875.1	30 261.1
2861	GUM AND WOOD CHEMICALS	100	119	37	4.8	54.0	3.8	7.8	38.9	185.0	391.3
2865	CYCLIC CRUDES AND INTERMEDIATES. . .	135	191	127	35.7	631.5	23.4	46.6	369.8	2 214.4	5 637.0
2869	INDUSTRIAL ORGANIC CHEMICALS, NEC. .	384	569	346	112.3	2 108.7	70.7	145.7	1 216.5	10 475.7	24 232.8
287	AGRICULTURAL CHEMICALS	885	1 325	482	53.9	784.0	35.3	72.8	454.8	3 807.9	9 932.2
2873	NITROGENOUS FERTILIZERS.	110	152	88	12.1	207.9	7.9	17.1	128.4	1 202.0	2 603.4
2874	PHOSPHATIC FERTILIZERS	45	91	69	14.4	212.8	10.1	21.7	139.2	817.7	2 681.7
2875	FERTILIZERS, MIXING ONLY	457	673	204	12.4	139.1	8.1	16.0	68.9	488.9	1 866.6
2879	AGRICULTURAL CHEMICALS, NEC. . . .	338	409	121	15.0	224.1	9.3	17.9	118.2	1 299.3	2 780.4
289	MISCELLANEOUS CHEMICAL PRODUCTS. .	2 146	2 786	838	76.9	1 075.0	47.1	94.2	560.9	3 539.0	7 843.2
2891	ADHESIVES AND SEALANTS	405	573	213	16.7	230.7	10.2	20.6	113.5	748.7	1 813.1
2892	EXPLOSIVES	63	97	53	12.3	173.2	8.4	16.1	101.4	410.7	666.3
2893	PRINTING INK	205	446	157	10.1	145.1	5.8	11.4	71.6	367.8	944.9
2895	CARBON BLACK	8	31	31	2.5	42.5	2.0	4.6	32.5	170.2	468.4
2899	CHEMICAL PREPARATIONS, NEC	1 479	1 639	384	35.3	483.4	20.7	41.5	242.0	1 841.7	3 950.6
29	PETROLEUM AND COAL PRODUCTS. . .	1 361	2 206	773	146.8	2 696.2	101.1	207.9	1 765.4	16 377.6	97 452.7
2911	PETROLEUM REFINING	192	349	279	102.5	2 055.3	70.8	144.4	1 366.4	14 423.9	91 688.8
295	PAVING AND ROOFING MATERIALS . . .	729	1 297	328	32.3	461.3	23.9	51.0	319.4	1 272.0	3 655.9
2951	PAVING MIXTURES AND BLOCKS	590	1 022	164	12.8	189.6	9.6	20.1	133.6	507.8	1 578.3
2952	ASPHALT FELTS AND COATINGS	146	275	164	19.5	271.7	14.3	31.0	185.9	764.2	2 077.6
299	MISC. PETROLEUM, COAL PRODUCTS . .	472	560	166	11.9	179.6	6.4	12.5	79.6	681.7	2 108.0
2992	LUBRICATING OILS AND GREASES	417	490	143	10.3	157.1	5.4	10.4	65.4	524.8	1 644.7
2999	PETROLEUM AND COAL PRODUCTS, NEC . .	60	70	23	1.6	22.5	1.1	2.1	14.2	157.0	463.3
30	RUBBER, MISC. PLASTICS PROD. . .	10 047	11 943	5 294	721.3	8 536.0	563.7	1 110.6	5 841.6	19 740.0	39 552.8
3011	TIRES AND INNER TUBES.	121	200	126	114.0	1 832.4	88.3	176.4	1 366.0	4 347.3	8 971.0
3021	RUBBER AND PLASTICS FOOTWEAR	67	84	50	19.8	159.1	16.4	30.0	115.9	272.3	517.0
3031	RECLAIMED RUBBER	21	21	9	.9	11.5	.7	1.5	8.4	24.8	41.6
3041	RUBBER, PLASTICS HOSE AND BELTING. .	101	146	103	34.4	457.4	23.4	45.3	274.9	973.5	1 765.7
3069	FABRICATED RUBBER PRODUCTS, NEC. . .	1 127	1 280	621	98.5	1 164.0	77.1	153.3	795.4	2 351.9	4 565.0
3079	MISCELLANEOUS PLASTICS PRODUCTS. . .	8 748	10 212	4 385	453.7	4 911.7	358.0	704.1	3 281.0	11 770.1	23 692.6
31	LEATHER AND LEATHER PRODUCTS . .	2 654	3 075	1 486	242.5	1 859.7	211.5	381.9	1 408.1	3 718.8	7 607.4
3111	LEATHER TANNING AND FINISHING. . . .	428	465	191	23.0	254.8	19.6	38.2	192.2	535.1	1 456.1
3131	BOOT, SHOE CUT STOCK AND FINDINGS. .	174	190	96	8.5	65.3	7.4	13.0	48.8	109.4	270.6
314	FOOTWEAR, EXCEPT RUBBER.	541	811	603	145.5	1 031.5	129.2	231.3	822.4	2 069.5	3 891.7
3142	HOUSE SLIPPERS	65	78	55	8.1	54.5	7.0	11.7	39.6	108.8	201.2
3143	MEN'S FOOTWEAR, EXCEPT ATHLETIC. . .	115	213	180	55.0	417.0	49.2	90.1	332.2	871.9	1 734.5
3144	WOMEN'S FOOTWEAR, EXCEPT ATHLETIC. .	243	328	241	57.6	388.6	51.3	91.3	315.6	755.0	1 361.2
3149	FOOTWEAR, EXCEPT RUBBER, NEC	159	192	127	24.8	171.4	21.8	38.2	135.1	333.7	594.8
3151	LEATHER GLOVES AND MITTENS	84	101	66	5.5	33.9	4.7	8.2	25.5	67.6	178.0
3161	LUGGAGE.	286	298	130	19.2	164.1	15.8	29.0	105.5	328.3	654.9
317	WOMEN'S HANDBAGS AND PURSES. . . .	654	678	283	32.1	242.2	27.8	49.9	170.0	472.2	872.0
3171	WOMEN'S HANDBAGS AND PURSES.	404	418	186	20.3	144.0	18.2	32.8	109.1	266.5	505.2
3172	PERSONAL LEATHER GOODS, NEC.	253	260	97	11.9	98.2	9.6	17.2	60.9	205.8	366.8
3199	LEATHER GOODS, NEC	512	532	117	8.6	67.9	7.0	12.4	43.7	136.7	284.2
32	STONE, CLAY, GLASS PRODUCTS. . .	14 495	17 744	5 201	613.7	7 943.1	484.4	960.7	5 766.6	19 129.6	35 476.6
3211	FLAT GLASS	43	62	32	21.9	401.0	18.5	39.9	328.2	931.0	1 576.6
322	GLASS, PRESSED OR BLOWN.	353	508	249	117.0	1 548.2	101.1	194.5	1 268.9	3 592.0	5 784.2
3221	GLASS CONTAINERS	31	126	124	70.8	975.4	62.5	120.1	823.0	2 138.9	3 664.2
3229	PRESSED AND BLOWN GLASS, NEC	325	382	125	46.2	572.8	38.6	74.4	445.9	1 453.1	2 120.1
3231	PRODUCTS OF PURCHASED GLASS.	1 000	1 101	325	36.2	429.2	28.8	56.7	305.9	960.2	1 842.4
3241	CEMENT, HYDRAULIC.	87	201	160	27.8	485.1	22.2	44.4	380.0	1 671.5	3 042.3
325	STRUCTURAL CLAY PRODUCTS	504	711	471	45.0	486.4	36.6	73.3	360.3	1 057.8	1 852.0

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972			
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million Dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
2819	INDUSTRIAL INORGANIC CHEM., NEC. . .	468.2	81.7	386.6	866.9	760.3	[5]87	[5]77	63.8	704.7	2 038.2	3 833.3	149.0
282	PLASTICS MATERIALS, SYNTHETICS . .	1 316.1	151.9	1 164.3	2 020.5	1 854.1	(NA)	(NA)	161.9	1 666.3	4 935.4	9 796.0	693.9
2821	PLASTICS MATERIALS AND RESINS. . . .	895.2	101.2	794.0	1 093.6	982.3	85	74	54.8	632.8	2 160.5	4 478.2	253.2
2822	SYNTHETIC RUBBER	53.2	3.9	49.3	154.3	148.9	91	71	11.8	138.8	491.7	1 089.4	35.5
2823	CELLULOSIC MANMADE FIBERS.	29.3	1.0	28.3	110.8	107.9	(D)	(D)	17.1	135.2	243.5	589.5	32.7
2824	ORGANIC FIBERS, NONCELLULOSIC. . . .	338.5	45.8	292.7	661.8	614.9	84	97	78.2	759.5	2 039.8	3 638.9	372.5
283	DRUGS.	578.5	154.8	423.7	2 446.5	2 231.6	(NA)	(NA)	129.9	1 413.3	6 130.9	8 018.5	245.3
2831	BIOLOGICAL PRODUCTS.	35.4	11.3	24.2	246.9	222.3	93	73	10.1	102.9	231.4	360.0	27.2
2833	MEDICINALS AND BOTANICALS.	123.8	19.8	104.0	307.0	297.9	82	68	7.8	80.8	260.0	509.0	51.5
2834	PHARMACEUTICAL PREPARATIONS.	419.3	123.8	295.5	1 892.6	1 711.5	86	97	112.0	1 229.7	5 639.5	7 149.5	166.7
284	SOAPS, CLEANERS, TOILET GOODS. . .	334.0	65.8	268.2	1 794.9	1 699.8	(NA)	(NA)	111.6	1 058.2	6 200.6	9 777.6	236.1
2841	SOAP AND OTHER DETERGENTS.	135.5	15.9	119.6	643.4	616.7	84	89	31.5	341.6	2 038.8	3 394.4	90.7
2842	POLISHES AND SANITATION GOODS. . . .	51.8	12.7	39.2	274.9	264.3	76	79	25.1	216.9	1 118.1	1 867.6	54.3
2843	SURFACE ACTIVE AGENTS.	41.1	8.2	32.8	116.3	106.9	81	55	6.9	71.5	209.5	462.6	19.7
2844	TOILET PREPARATIONS.	105.6	29.0	76.6	760.3	712.0	95	87	48.2	428.2	2 834.1	4 053.0	71.4
2851	PAINTS AND ALLIED PRODUCTS	167.4	52.5	114.9	937.6	864.2	96	97	65.9	647.2	1 791.7	3 821.8	81.5
286	INDUSTRIAL ORGANIC CHEMICALS . . .	3 352.5	511.1	2 841.5	3 852.8	3 439.3	(NA)	(NA)	136.6	1 614.3	6 073.1	11 605.4	831.6
2861	GUM AND WOOD CHEMICALS	27.0	10.8	16.2	65.7	63.6	76	67	5.9	47.6	155.4	332.3	11.1
2865	CYCLIC CRUDES AND INTERMEDIATES. . .	443.1	52.6	390.5	844.4	784.2	68	67	28.2	318.2	929.7	2 049.6	158.8
2869	INDUSTRIAL ORGANIC CHEMICALS, NEC. .	2 882.6	447.7	2 434.9	2 942.7	2 591.5	69	84	102.4	1 248.6	4 988.0	9 223.5	661.7
287	AGRICULTURAL CHEMICALS	1 107.2	99.0	1 008.2	1 564.7	1 394.3	(NA)	(NA)	47.9	438.4	1 736.5	3 929.1	155.8
2873	NITROGENOUS FERTILIZERS.	734.4	34.7	699.6	378.0	296.9	84	72	9.4	104.3	447.6	799.4	33.2
2874	PHOSPHATIC FERTILIZERS	111.8	13.8	97.9	419.7	353.9	93	91	14.9	135.1	426.4	1 178.9	65.8
2875	FERTILIZERS, MIXING ONLY	41.9	9.3	32.6	306.5	303.3	95	98	11.4	82.5	263.6	800.0	17.2
2879	AGRICULTURAL CHEMICALS, NEC.	219.2	41.1	178.0	460.6	440.2	83	77	12.2	116.5	598.9	1 150.8	39.5
289	MISCELLANEOUS CHEMICAL PRODUCTS. .	287.4	72.3	215.2	868.1	802.8	(NA)	(NA)	83.1	814.3	2 202.6	4 268.4	150.8
2891	ADHESIVES AND SEALANTS	39.0	9.4	29.6	202.5	187.3	89	81	14.9	148.2	426.6	928.0	24.9
2892	EXPLOSIVES	26.1	7.3	18.8	59.8	54.8	86	95	18.6	178.9	281.7	402.7	30.1
2893	PRINTING INK	17.0	4.3	12.8	116.7	101.7	97	97	9.6	99.3	232.0	508.4	12.6
2895	CARBON BLACK	22.7	1.5	21.2	32.7	27.3	[6]95	[6]95	2.9	31.9	137.6	227.0	11.8
2899	CHEMICAL PREPARATIONS, NEC	182.6	49.8	132.9	456.5	431.7	87	77	37.1	356.0	1 124.7	2 202.3	71.3
29	PETROLEUM AND COAL PRODUCTS. . .	2 261.3	617.8	1 643.5	5 656.3	4 912.9	(NA)	(NA)	139.5	1 637.5	5 793.1	28 694.7	1 154.2
2911	PETROLEUM REFINING	2 108.6	589.2	1 519.5	5 196.2	4 471.6	99	97	100.8	1 247.1	4 594.7	25 921.1	1 061.6
295	PAVING AND ROOFING MATERIALS . . .	112.5	21.3	91.2	220.0	196.1	(NA)	(NA)	29.5	296.5	846.4	1 932.9	75.9
2951	PAVING MIXTURES AND BLOCKS	57.3	8.4	48.9	62.8	53.5	95	93	13.9	147.7	403.1	922.5	56.3
2952	ASPHALT FELTS AND COATINGS	55.2	13.0	42.2	157.2	142.6	91	97	15.6	148.7	443.3	1 010.4	19.6
299	MISC. PETROLEUM, COAL PRODUCTS . .	40.1	7.2	32.9	240.1	245.2	(NA)	(NA)	9.2	93.9	352.1	840.7	16.7
2992	LUBRICATING OILS AND GREASES	25.6	5.7	19.9	180.8	192.9	94	44	8.1	83.3	295.8	703.1	13.7
2999	PETROLEUM AND COAL PRODUCTS, NEC . .	14.5	1.5	13.0	59.3	52.3	97	87	1.1	10.6	56.3	137.6	3.0
30	RUBBER, MISC. PLASTICS PROD. . .	1 645.3	306.4	1 338.9	4 952.7	4 441.4	(NA)	(NA)	617.7	5 165.2	11 653.3	20 923.7	1 059.6
3011	TIRES AND INNER TUBES.	289.0	38.4	250.6	1 172.1	1 015.0	96	99	107.5	1 214.1	3 070.8	5 747.1	267.1
3021	RUBBER AND PLASTICS FOOTWEAR	11.3	.9	10.4	140.7	129.0	93	99	31.6	182.6	370.3	600.0	17.7
3031	RECLAIMED RUBBER	.5	(Z)	.5	3.7	3.7	100	62	.9	9.1	15.6	29.7	.7
3041	RUBBER, PLASTICS HOSE AND BELTING. .	55.3	15.3	40.1	275.4	267.6	88	92	31.9	309.0	618.7	1 020.1	31.6
3069	FABRICATED RUBBER PRODUCTS, NEC. . .	135.0	28.2	106.9	510.5	476.6	88	90	99.0	808.8	1 573.1	2 830.9	88.5
3079	MISCELLANEOUS PLASTICS PRODUCTS. . .	1 154.2	223.7	930.5	2 850.3	2 549.6	94	91	346.9	2 641.6	6 004.7	10 695.9	654.0
31	LEATHER AND LEATHER PRODUCTS . .	96.2	21.6	74.6	1 098.9	1 033.0	(NA)	(NA)	273.4	1 589.3	2 917.2	5 769.5	74.5
3111	LEATHER TANNING AND FINISHING. . . .	30.7	6.8	23.9	187.6	176.1	99	99	25.7	200.0	368.3	1 059.5	16.3
3131	BOOT, SHOE CUT STOCK AND FINDINGS. .	3.0	.8	2.2	31.2	33.0	90	92	8.7	50.1	86.2	206.5	2.9
314	FOOTWEAR, EXCEPT RUBBER.	37.1	9.0	28.1	558.0	518.8	(NA)	(NA)	176.2	972.7	1 796.1	3 272.2	37.1
3142	HOUSE SLIPPERS	2.3	.7	1.6	29.7	28.9	94	96	8.5	48.1	85.7	151.4	1.6
3143	MEN'S FOOTWEAR, EXCEPT ATHLETIC. . .	14.5	3.4	11.0	272.2	245.6	92	96	61.5	358.1	674.4	1 288.9	14.3
3144	WOMEN'S FOOTWEAR, EXCEPT ATHLETIC. .	9.7	2.1	7.6	147.4	148.3	97	92	77.4	408.4	763.6	1 346.1	14.8
3149	FOOTWEAR, EXCEPT RUBBER, NEC	10.6	2.8	7.8	108.7	96.0	84	83	28.7	158.1	272.5	485.8	6.4
3151	LEATHER GLOVES AND MITTENS	1.9	.3	1.6	33.7	30.9	83	85	4.9	22.1	43.0	98.2	.5
3161	LUGGAGE.	8.1	1.0	7.1	113.5	114.8	94	98	17.1	106.8	194.1	364.5	8.9
317	WOMEN'S HANDBAGS AND PURSES. . . .	11.4	2.4	9.0	124.5	116.2	(NA)	(NA)	33.6	195.1	345.1	607.2	6.5
3171	WOMEN'S HANDBAGS AND PURSES.	6.6	1.7	4.9	61.9	56.1	97	97	22.2	121.7	201.5	365.0	3.7
3172	PERSONAL LEATHER GOODS, NEC.	4.8	.7	4.1	62.5	60.2	96	91	11.5	73.4	143.7	242.2	2.8
3199	LEATHER GOODS, NEC	4.1	1.4	2.7	50.6	43.2	94	95	7.2	42.5	84.3	161.3	2.2
32	STONE, CLAY, GLASS PRODUCTS. . .	1 881.4	337.2	1 544.2	4 279.3	3 995.3	(NA)	(NA)	623.2	5 546.9	12 586.5	21 537.5	1 195.5
3211	FLAT GLASS	81.1	11.8	69.3	211.4	191.9	[6]90	(D)	20.9	241.9	662.1	937.1	95.0
322	GLASS, PRESSED OR BLOWN.	364.5	59.1	305.4	759.4	760.9	(NA)	(NA)	118.8	1 057.5	2 341.1	3 393.8	176.7
3221	GLASS CONTAINERS	220.9	34.3	186.7	408.7	429.6	99	99	72.9	659.4	1 399.7	2 126.5	121.1
3229	PRESSED AND BLOWN GLASS, NEC	143.6	24.9	118.7	350.7	331.2	97	96	45.9	398.1	941.4	1 267.3	55.6
3231	PRODUCTS OF PURCHASED GLASS.	73.4	23.0	50.4	285.6	261.5	[6]95	(D)	33.7	296.1	668.9	1 330.1	34.5
3241	CEMENT, HYDRAULIC.	296.6	41.7	254.9	484.8	463.2	99	99	30.0	349.2	1 153.5	1 791.2	179.5
325	STRUCTURAL CLAY PRODUCTS	82.3	16.7	65.6	299.0	304.5	(NA)	(NA)	51.8	391.4	770.6	1 205.3	64.0

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972–Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
3251	BRICK AND STRUCTURAL CLAY TILE	250	352	262	20.5	197.3	17.0	34.0	149.2	467.9	777.7
3253	CERAMIC WALL AND FLOOR TILE	62	79	48	7.8	78.3	6.3	12.8	56.4	155.4	252.5
3255	CLAY REFRACTORIES	98	167	104	11.3	146.8	8.8	17.6	106.5	308.4	607.2
3259	STRUCTURAL CLAY PRODUCTS, NEC	94	113	57	5.5	64.0	4.5	8.9	48.2	126.1	214.6
326	POTTERY AND RELATED PRODUCTS	685	934	241	43.2	459.6	35.6	67.8	341.9	893.6	1 260.9
3261	VITREOUS PLUMBING FIXTURES	54	70	38	9.2	117.2	7.8	15.6	96.9	277.3	411.4
3262	VITREOUS CHINA FOOD UTENSILS	26	28	14	7.3	72.3	6.0	11.1	53.6	140.0	170.7
3263	FINE EARTHENWARE FOOD UTENSILS	22	23	17	4.7	38.4	3.5	6.4	27.1	61.2	81.3
3264	PORCELAIN ELECTRICAL SUPPLIES	77	86	56	11.4	144.4	9.1	17.6	98.0	253.9	367.5
3269	POTTERY PRODUCTS, NEC	713	727	116	10.6	87.4	9.2	17.1	66.2	161.2	230.0
327	CONCRETE, GYPSUM, PLASTER PRODS.	8 899	10 844	2 711	183.7	2 366.8	134.4	272.6	1 558.6	5 390.8	11 804.8
3271	CONCRETE BLOCK AND BRICK	1 162	1 273	348	18.7	237.1	11.8	24.1	126.6	520.3	1 143.8
3272	CONCRETE PRODUCTS, NEC	3 475	3 916	862	61.7	734.9	48.1	96.0	494.5	1 529.3	2 736.2
3273	READY-MIXED CONCRETE	4 317	5 433	1 357	87.9	1 175.8	62.0	125.3	766.6	2 693.2	6 440.6
3274	LIME	64	94	63	5.9	75.4	4.8	9.8	59.4	218.2	484.2
3275	GYPSUM PRODUCTS	58	128	81	9.5	143.6	7.6	17.3	111.5	429.6	1 000.0
3281	CUT STONE AND STONE PRODUCTS	963	993	164	12.7	131.5	10.6	21.4	98.8	238.2	393.0
329	MISC. NONMETALLIC MINERAL PRODS.	1 960	2 390	848	126.2	1 635.2	96.6	190.0	1 123.9	4 394.5	7 920.2
3291	ABRASIVE PRODUCTS	353	410	178	28.3	392.3	20.1	38.5	241.2	1 097.7	1 955.8
3292	ASBESTOS PRODUCTS	86	123	76	13.9	179.9	11.0	22.6	137.4	439.3	882.1
3293	GASKETS, PACKING, SEALING DEVICES	384	433	217	33.0	371.3	25.0	47.5	237.3	748.3	1 267.1
3295	MINERALS, GROUND OR TREATED	318	466	151	11.5	156.3	8.9	18.1	111.8	479.4	957.3
3296	MINERAL WOOL	95	153	90	22.6	313.8	18.6	38.3	244.5	1 053.7	1 790.5
3297	NONCLAY REFRACTORIES	74	109	66	9.1	134.3	6.8	13.5	92.5	352.1	680.2
3299	NONMETALLIC MINERAL PRODUCTS, NEC	681	696	70	7.7	87.2	6.2	11.4	59.1	224.1	387.3
33	PRIMARY METAL INDUSTRIES	5 929	7 375	3 980	1 113.6	18 745.0	885.3	1 744.0	14 065.2	37 568.2	103 179.4
331	BLAST FURNACE, BASIC STEEL PROD.	887	1 216	740	529.7	10 085.5	417.9	804.5	7 631.3	18 318.4	50 582.1
3312	BLAST FURNACES AND STEEL MILLS	395	504	250	441.9	8 725.7	350.2	668.7	6 653.0	15 331.9	41 998.2
3313	ELECTROMETALLURGICAL PRODUCTS	28	42	31	8.9	139.2	7.0	14.3	103.9	274.6	930.6
3315	STEEL WIRE AND RELATED PRODUCTS	262	335	223	31.7	436.6	24.3	49.0	304.9	924.4	2 258.6
3316	COLD FINISHING OF STEEL SHAPES	118	155	94	19.4	334.6	14.6	28.7	238.8	799.6	2 713.2
3317	STEEL PIPE AND TUBES	130	180	142	27.8	449.4	21.8	43.7	330.6	987.9	2 681.4
332	IRON AND STEEL FOUNDRIES	1 251	1 465	1 033	222.3	3 329.2	183.8	367.9	2 582.6	6 236.6	10 830.2
3321	GRAY IRON FOUNDRIES	865	984	683	138.8	2 146.0	116.8	236.1	1 703.2	4 070.7	7 388.7
3322	MALLEABLE IRON FOUNDRIES	58	66	53	18.2	273.0	14.6	27.9	202.5	458.8	721.9
3324	STEEL INVESTMENT FOUNDRIES	80	92	68	10.5	128.7	8.1	16.5	85.9	267.4	407.5
3325	STEEL FOUNDRIES, NEC	287	323	229	54.8	781.5	44.2	87.3	591.0	1 439.8	2 312.1
333	PRIMARY NONFERROUS METALS	103	160	99	57.3	1 032.1	44.9	89.1	768.4	3 618.6	10 660.2
3331	PRIMARY COPPER	8	27	27	13.1	217.3	10.6	20.6	167.5	904.3	3 918.1
3332	PRIMARY LEAD	4	7	7	2.5	40.5	2.0	4.1	30.2	189.5	699.6
3333	PRIMARY ZINC	8	9	7	4.6	70.5	3.5	6.9	49.3	114.3	430.7
3334	PRIMARY ALUMINUM	12	32	32	28.6	555.0	22.8	45.5	426.3	1 980.9	4 647.8
3339	PRIMARY NONFERROUS METALS, NEC	81	85	26	8.6	148.8	6.0	12.1	95.1	429.5	963.9
3341	SECONDARY NONFERROUS METALS	393	460	200	18.9	269.8	14.0	28.4	169.7	769.3	3 558.0
335	NONFERROUS ROLLING AND DRAWING	626	1 002	711	177.4	2 640.0	136.0	278.5	1 901.5	5 902.3	22 227.3
3351	COPPER ROLLING AND DRAWING	102	140	99	31.3	455.5	24.2	50.5	338.7	973.7	4 013.8
3353	ALUMINUM SHEET, PLATE, AND FOIL	31	53	45	31.4	613.5	25.0	50.6	480.1	1 340.6	5 970.7
3354	ALUMINUM EXTRUDED PRODUCTS	133	193	146	26.5	355.9	21.2	44.0	264.1	678.6	2 050.0
3355	ALUMINUM ROLLING AND DRAWING, NEC	18	22	15	4.7	78.1	3.6	6.9	56.5	222.8	1 001.0
3356	NONFERROUS ROLLING & DRAWING, NEC	153	173	86	17.2	260.2	12.0	24.7	158.7	569.0	22 596.5
3357	NONFERROUS WIREDRAWING, INSULATING	245	421	320	66.3	876.8	50.0	101.8	603.4	2 117.6	6 595.4
336	NONFERROUS FOUNDRIES	1 806	1 892	805	82.1	1 043.8	68.6	134.1	782.6	1 959.6	3 826.1
3361	ALUMINUM FOUNDRIES	994	1 038	461	52.2	691.4	44.2	86.3	531.0	1 262.7	2 459.1
3362	BRASS, BRONZE, COPPER FOUNDRIES	476	489	180	12.6	148.3	10.2	19.8	106.7	283.0	553.3
3369	NONFERROUS FOUNDRIES, NEC	359	365	164	17.3	204.1	14.2	28.0	144.9	413.9	813.7
339	MISC. PRIMARY METAL PRODUCTS	1 102	1 180	392	26.0	344.5	20.2	41.5	229.2	763.3	1 495.5
3398	METAL HEAT TREATING	682	753	273	16.9	220.1	13.3	27.6	147.9	466.8	744.9
3399	PRIMARY METAL PRODUCTS, NEC	406	427	119	9.0	124.4	6.9	13.9	81.2	296.5	750.6
34	FABRICATED METAL PRODUCTS	29 966	33 712	12 739	1 555.7	21 035.9	1 191.6	2 373.8	14 428.8	45 511.5	90 023.5
341	METAL CANS, SHIPPING CONTAINERS	269	587	413	72.3	1 246.5	60.0	126.5	999.6	3 643.9	9 180.0
3411	METAL CANS	153	403	300	59.8	1 066.3	50.2	106.4	870.8	3 254.3	8 242.8
3412	METAL BARRELS, DRUMS, AND PAILS	120	184	113	12.4	180.3	9.8	20.1	128.8	389.6	937.1
342	CUTLERY, HANDTOOLS AND HARDWARE	1 924	2 137	877	168.6	2 179.3	132.6	264.5	1 553.4	5 176.6	8 556.5
3421	CUTLERY	119	130	62	14.9	159.6	12.1	23.5	118.3	492.0	711.4
3423	HAND AND EDGE TOOLS, NEC	662	724	296	47.0	566.4	36.9	72.8	394.7	1 421.4	2 279.2
3425	HANDSAWS AND SAW BLADES	105	115	55	7.6	94.3	5.7	11.4	62.7	230.6	363.3
3429	HARDWARE, NEC	1 063	1 168	464	99.2	1 359.0	77.9	156.8	977.7	3 032.6	5,202.6
343	PLUMBING, HEATING, EXCEPT ELEC	960	1 015	341	53.2	636.8	40.6	80.4	422.8	1 573.6	3 087.6
3431	METAL SANITARY WARE	96	101	37	8.1	109.7	6.7	14.4	87.5	248.7	477.6
3432	PLUMBING FITTINGS AND BRASS GOODS	191	213	110	19.3	215.0	15.3	30.0	145.0	579.3	1 166.4
3433	HEATING EQUIPMENT, EXC. ELECTRIC	678	701	194	25.8	312.2	18.7	36.0	190.3	745.6	1 443.6
344	FABRICATED STRUC. METAL PRODS.	10 725	11 817	4 279	425.7	5 491.9	308.5	603.3	3 467.2	11 785.3	24 993.8
3441	FABRICATED STRUCTURAL METAL	2 319	2 462	1 074	99.3	1 313.6	72.8	144.2	836.9	2 559.8	5 505.2
3442	METAL DOORS, SASH, AND TRIM	1 498	1 672	644	65.8	671.3	50.1	97.0	425.0	1 418.3	3 135.6
3443	FABRICATED PLATEWORK, BOILER SHOP	1 683	1 864	944	123.5	1 777.8	87.7	171.6	1 125.8	4 075.3	7 432.4
3444	SHEET METALWORK	3 222	3 430	1 008	77.4	980.2	56.7	109.5	636.6	2 095.1	4 863.5
3446	ARCHITECTURAL METALWORK	1 477	1 511	225	20.8	247.7	15.1	29.4	152.3	505.5	947.1
3448	PREFABRICATED METAL BUILDINGS	414	466	199	22.7	289.7	15.9	31.6	174.9	694.5	1 779.2

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
3251	BRICK AND STRUCTURAL CLAY TILE	49.6	10.2	39.5	93.2	98.3	99	99	24.1	168.4	336.4	513.0	38.6
3253	CERAMIC WALL AND FLOOR TILE	6.6	.7	6.0	42.1	40.3	99	95	8.3	58.5	112.3	175.6	7.6
3255	CLAY REFRACTORIES	20.0	4.4	15.6	126.4	131.4	89	95	11.2	100.5	202.1	336.0	10.8
3259	STRUCTURAL CLAY PRODUCTS, NEC	6.1	1.4	4.6	37.2	34.5	94	92	8.2	64.0	119.8	180.7	7.0
326	POTTERY AND RELATED PRODUCTS	45.2	11.5	33.7	182.0	169.0	(NA)	(NA)	44.9	335.3	600.6	834.8	23.1
3261	VITREOUS PLUMBING FIXTURES	7.3	1.9	5.4	48.9	49.1	92	95	9.6	86.5	186.8	270.0	5.8
3262	VITREOUS CHINA FOOD UTENSILS	5.4	1.6	3.8	30.0	26.2	80	94	5.9	41.2	67.4	81.9	1.8
3263	FINE EARTHENWARE FOOD UTENSILS	1.7	.4	1.3	17.2	14.9	85	76	6.8	41.4	56.2	74.3	3.1
3264	PORCELAIN ELECTRICAL SUPPLIES	20.9	5.3	15.6	59.3	54.3	86	82	13.4	114.0	190.4	274.6	7.2
3269	POTTERY PRODUCTS, NEC	9.8	2.4	7.5	26.7	24.6	95	85	9.1	52.2	99.9	134.0	5.2
327	CONCRETE, GYPSUM, PLASTER PRODS.	604.8	105.8	499.0	864.8	774.7	(NA)	(NA)	193.1	1 741.0	3 839.7	7 746.4	453.1
3271	CONCRETE BLOCK AND BRICK	55.6	9.8	45.9	124.0	118.4	93	85	22.8	196.0	438.5	855.7	46.2
3272	CONCRETE PRODUCTS, NEC	134.4	30.2	104.2	389.7	357.0	96	95	67.7	570.2	1 190.1	1 961.4	96.2
3273	READY-MIXED CONCRETE	353.1	54.1	299.0	231.5	193.7	93	98	85.7	809.3	1 756.7	4 050.9	247.8
3274	LIME	29.7	6.9	22.9	47.2	39.0	92	92	5.7	50.0	129.3	238.1	39.4
3275	GYPSUM PRODUCTS	31.9	4.9	27.0	72.4	66.6	96	98	11.2	115.5	325.1	640.3	23.3
3281	CUT STONE AND STONE PRODUCTS	10.4	2.1	8.3	53.8	50.0	96	95	15.0	109.2	191.4	304.5	12.6
329	MISC. NONMETALLIC MINERAL PRODS.	323.1	65.5	257.6	1 138.5	1 019.8	(NA)	(NA)	115.1	1 025.4	2 358.8	3 994.4	157.0
3291	ABRASIVE PRODUCTS	48.7	12.0	36.7	317.7	247.8	90	97	24.5	229.4	529.6	888.1	17.2
3292	ASBESTOS PRODUCTS	26.0	5.4	20.6	168.0	161.3	92	81	21.0	191.0	426.1	763.4	20.4
3293	GASKETS, PACKING, SEALING DEVICES	46.5	8.0	38.5	208.6	195.5	93	89	27.7	220.4	428.5	665.4	24.9
3295	MINERALS, GROUND OR TREATED	50.2	9.7	40.5	116.3	116.4	96	90	9.5	87.9	237.2	412.0	30.0
3296	MINERAL WOOL	85.9	12.2	73.7	121.5	116.5	93	96	18.0	172.3	441.5	755.4	50.1
3297	NONCLAY REFRACTORIES	37.1	6.9	30.2	159.5	141.8	92	83	8.1	78.3	191.1	343.6	9.3
3299	NONMETALLIC MINERAL PRODUCTS, NEC	28.7	11.2	17.4	46.9	40.5	93	89	6.3	46.0	104.7	166.5	5.0
33	PRIMARY METAL INDUSTRIES	4 496.8	652.8	3 844.0	18 458.3	17 884.5	(NA)	(NA)	1 142.8	12 166.5	23 258.1	58 429.7	2 160.6
331	BLAST FURNACE, BASIC STEEL PROD.	2 442.7	269.1	2 173.6	10 306.4	10 327.8	(NA)	(NA)	552.9	6 388.6	12 116.1	28 652.3	1 058.8
3312	BLAST FURNACES AND STEEL MILLS	2 143.0	225.5	1 917.6	8 471.6	8 620.6	(NA)	(NA)	469.1	5 537.8	10 304.7	23 946.7	961.2
3313	ELECTROMETALLURGICAL PRODUCTS	53.2	4.2	49.1	403.8	367.3	(D)	90	9.5	94.1	217.2	550.1	26.3
3315	STEEL WIRE AND RELATED PRODUCTS	79.4	14.3	65.1	422.8	409.7	95	47	30.6	287.9	583.5	1 227.7	26.6
3316	COLD FINISHING OF STEEL SHAPES	49.6	5.6	43.9	436.6	383.3	95	25	20.1	223.3	504.6	1 635.7	20.6
3317	STEEL PIPE AND TUBES	117.5	19.6	97.9	571.6	546.9	95	44	23.6	245.5	506.1	1 292.1	24.1
332	IRON AND STEEL FOUNDRIES	658.8	129.4	529.4	1 104.8	1 027.1	(NA)	(NA)	218.8	2 155.3	3 481.3	5 713.9	279.9
3321	GRAY IRON FOUNDRIES	503.1	102.3	400.8	654.4	596.2	96	88	138.4	1 387.4	2 257.0	3 876.5	202.5
3322	MALLEABLE IRON FOUNDRIES	28.9	6.5	22.4	43.6	41.1	86	93	22.5	234.5	342.6	507.9	34.9
3324	STEEL INVESTMENT FOUNDRIES	10.9	1.6	9.3	65.6	57.0	93	86	11.2	93.2	175.6	262.2	11.1
3325	STEEL FOUNDRIES, NEC	115.9	19.0	96.9	341.3	332.8	87	91	46.7	440.2	706.0	1 067.4	31.5
333	PRIMARY NONFERROUS METALS	587.2	110.7	476.5	1 952.0	1 819.4	(NA)	(NA)	58.6	626.9	1 705.5	5 964.2	292.2
3331	PRIMARY COPPER	(D)	(D)	(D)	756.6	700.0	(7)	(7)	17.2	173.2	487.8	2 771.1	119.7
3332	PRIMARY LEAD	(D)	(D)	(D)	186.0	162.3	(7)	(7)	2.8	26.5	128.7	460.9	5.7
3333	PRIMARY ZINC	39.8	5.3	34.6	154.1	176.6	83	67	6.3	59.3	121.6	376.4	9.8
3334	PRIMARY ALUMINUM	158.7	22.2	136.5	646.8	590.1	95	70	25.6	296.2	816.0	1 959.8	136.5
3339	PRIMARY NONFERROUS METALS, NEC	97.1	7.4	89.7	208.5	190.5	90	44	6.7	71.7	151.5	395.9	20.6
3341	SECONDARY NONFERROUS METALS	114.3	36.7	77.6	485.2	459.5	97	26	17.8	170.1	410.9	2 097.2	34.8
335	NONFERROUS ROLLING AND DRAWING	460.5	62.4	398.1	4 042.3	3 749.3	(NA)	(NA)	188.3	1 871.3	3 799.5	12 862.6	371.4
3351	COPPER ROLLING AND DRAWING	64.4	7.3	57.1	472.1	496.1	85	92	37.8	383.7	800.3	3 098.8	65.3
3353	ALUMINUM SHEET, PLATE, AND FOIL	157.7	19.0	138.7	1 625.2	1 325.2	92	99	31.3	370.7	692.3	2 685.2	90.3
3354	ALUMINUM EXTRUDED PRODUCTS	48.2	8.6	39.6	337.2	312.8	88	92	27.7	239.2	427.6	1 078.3	32.6
3355	ALUMINUM ROLLING AND DRAWING, NEC	16.1	2.2	13.9	169.5	183.6	91	65	4.6	48.0	57.3	343.4	9.2
3356	NONFERROUS ROLLING & DRAWING, NEC	34.3	5.7	28.6	477.5	483.7	94	93	18.1	184.2	374.1	1 244.6	24.3
3357	NONFERROUS WIREDRAWING, INSULATING	139.8	19.6	120.2	960.7	948.0	94	93	68.8	645.6	1 448.0	4 412.3	149.7
336	NONFERROUS FOUNDRIES	163.7	32.0	131.8	349.2	316.9	(NA)	(NA)	81.4	721.5	1 269.1	2 323.8	73.5
3361	ALUMINUM FOUNDRIES	121.1	23.2	97.9	205.4	174.7	87	92	45.7	417.9	718.3	1 269.9	38.8
3362	BRASS, BRONZE, COPPER FOUNDRIES	17.9	3.7	14.2	59.2	55.6	85	74	15.4	129.6	236.9	465.3	17.4
3369	NONFERROUS FOUNDRIES, NEC	24.7	5.1	19.6	84.7	86.6	85	77	20.3	174.0	314.0	588.6	17.3
339	MISC. PRIMARY METAL PRODUCTS	69.5	12.5	57.0	218.2	184.4	(NA)	(NA)	25.0	232.8	475.7	815.7	50.0
3398	METAL HEAT TREATING	42.2	9.2	33.0	69.0	48.5	(8)	(8)	17.2	157.3	310.6	467.4	23.1
3399	PRIMARY METAL PRODUCTS, NEC	27.3	3.3	24.0	149.2	135.9	94	70	7.9	75.5	165.0	348.3	26.9
34	FABRICATED METAL PRODUCTS	2 606.1	480.9	2 125.3	15 306.2	14 111.8	(NA)	(NA)	1 493.3	13 820.6	26 914.5	51 739.3	1 323.2
341	METAL CANS, SHIPPING CONTAINERS	208.7	25.7	183.0	1 168.0	1 020.9	(NA)	(NA)	78.6	839.6	2 004.6	4 972.1	146.5
3411	METAL CANS	176.9	19.6	157.3	1 032.9	889.0	96	98	68.5	740.7	1 815.8	4 510.8	138.1
3412	METAL BARRELS, DRUMS, AND PAILS	31.8	6.1	25.7	135.0	132.0	94	90	10.2	98.9	188.8	461.3	8.4
342	CUTLERY, HANDTOOLS AND HARDWARE	298.9	45.9	253.1	1 544.7	1 385.2	(NA)	(NA)	159.2	1 404.9	3 253.4	5 094.3	143.0
3421	CUTLERY	23.3	5.0	18.3	132.1	129.0	92	94	13.4	102.6	322.3	427.5	11.7
3423	HAND AND EDGE TOOLS, NEC	72.0	14.1	58.0	487.4	437.3	91	90	39.3	343.0	780.0	1 233.1	33.5
3425	HANDSAWS AND SAW BLADES	13.4	1.4	12.0	75.5	68.3	86	77	6.6	56.7	127.5	194.4	6.4
3429	HARDWARE, NEC	190.2	25.4	164.8	849.7	750.6	94	94	99.9	902.6	2 023.6	3 239.4	91.4
343	PLUMBING, HEATING, EXCEPT ELEC	74.1	14.8	59.2	567.9	525.8	(NA)	(NA)	60.7	523.8	1 131.6	2 136.8	51.7
3431	METAL SANITARY WARE	11.3	2.0	9.3	65.5	72.1	82	92	11.2	104.4	208.2	370.2	8.2
3432	PLUMBING FITTINGS AND BRASS GOODS	30.3	3.8	26.5	239.8	219.6	96	92	18.6	151.5	361.8	708.2	19.0
3433	HEATING EQUIPMENT, EXC. ELECTRIC	32.4	9.0	23.5	262.6	234.0	87	84	30.9	268.0	561.6	1 058.4	24.5
344	FABRICATED STRUC. METAL PRODS.	580.2	158.7	421.5	4 832.4	4 576.9	(NA)	(NA)	394.8	3 531.8	6 742.9	14 179.6	317.5
3441	FABRICATED STRUCTURAL METAL	144.1	40.3	103.9	1 220.9	1 132.6	92	92	104.3	975.5	1 730.7	3 920.1	74.7
3442	METAL DOORS, SASH, AND TRIM	70.7	18.9	51.8	519.0	438.8	93	91	70.7	520.8	1 003.7	2 077.6	52.1
3443	FABRICATED PLATEWORK, BOILER SHOP	179.8	52.6	127.3	1 566.9	1 576.3	89	92	93.0	893.5	1 758.7	3 339.0	77.3
3444	SHEET METALWORK	110.6	26.5	84.1	841.9	771.5	92	90	74.0	678.5	1 299.9	2 680.0	59.0
3446	ARCHITECTURAL METALWORK	22.2	6.6	15.7	167.3	156.7	90	86	20.9	175.4	311.8	573.7	17.0
3448	PREFABRICATED METAL BUILDINGS	32.2	8.8	23.4	304.6	296.1	94	95	12.5	109.4	275.9	608.9	11.3

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
3449	MISCELLANEOUS METALWORK.	308	412	185	16.3	211.5	10.2	20.2	115.7	436.9	1 330.8
345	SCREW MACHINE PROD., BOLTS, ETC. .	2 431	2 627	1 102	104.7	1 414.0	81.6	168.2	983.2	2 864.2	5 091.2
3451	SCREW MACHINE PRODUCTS	1 727	1 770	654	43.8	551.6	36.0	74.3	395.5	1 023.9	1 771.7
3452	BOLTS, NUTS, RIVETS, AND WASHERS . .	723	857	448	60.9	862.4	45.6	93.9	587.6	1 840.3	3 319.5
346	METAL FORGINGS AND STAMPINGS . . .	3 389	3 715	1 875	288.0	4 511.3	236.1	479.6	3 418.9	8 913.4	18 264.2
3462	IRON AND STEEL FORGINGS.	312	358	231	39.1	641.5	31.0	60.8	474.8	1 301.4	2 795.7
3463	NONFERROUS FORGINGS.	43	47	31	5.4	93.7	4.2	8.2	64.8	240.7	456.7
3465	AUTOMOTIVE STAMPINGS	495	591	432	132.4	2 446.0	112.5	236.8	1 956.6	4 654.5	9 739.2
3466	CROWNS AND CLOSURES.	42	56	43	7.9	104.8	6.5	12.6	80.2	265.4	536.9
3469	METAL STAMPINGS, NEC	2 544	2 663	1 138	103.2	1 225.4	82.0	161.2	842.5	2 451.5	4 735.7
347	METAL SERVICES, NEC.	4 880	5 095	1 373	93.5	1 008.5	77.1	153.5	706.3	1 962.9	3 456.3
3471	PLATING AND POLISHING.	3 344	3 447	904	61.2	634.8	51.2	101.3	446.1	1 181.8	1 848.5
3479	METAL COATING AND ALLIED SERVICES. .	1 556	1 648	469	32.3	373.7	25.9	52.2	260.2	781.1	1 607.7
348	ORDNANCE AND ACCESSORIES, NEC. . .	306	346	151	70.2	991.7	46.9	91.7	559.2	1 736.8	2 641.4
3482	SMALL ARMS AMMUNITION.	59	65	16	10.3	138.1	7.7	15.4	95.3	247.5	436.2
3483	AMMUNITION, EXC. SMALL ARMS, NEC . .	68	80	48	18.9	248.1	12.4	23.5	133.2	448.7	716.5
3484	SMALL ARMS	105	112	46	17.5	237.8	13.1	27.1	157.3	481.5	754.9
3489	ORDNANCE AND ACCESSORIES NEC	89	89	41	23.6	367.7	13.7	25.8	173.3	559.2	733.8
349	MISC. FABRICATED METAL PRODUCTS. .	5 780	6 373	2 328	279.4	3 555.8	208.2	406.1	2 318.1	7 854.9	14 752.6
3493	STEEL SPRINGS, EXCEPT WIRE	116	131	59	8.2	119.8	6.6	13.3	88.0	249.9	500.5
3494	VALVES AND PIPE FITTINGS	741	902	532	108.7	1 467.3	76.0	149.6	909.8	3 385.9	5 662.3
3495	WIRE SPRINGS	254	332	226	21.7	253.5	18.0	35.4	187.8	497.7	957.7
3496	MISC. FABRICATED WIRE PRODUCTS . . .	1 048	1 114	387	32.4	354.5	25.5	49.4	232.2	721.7	1 435.0
3497	METAL FOIL AND LEAF.	63	77	52	9.4	125.8	6.6	13.0	87.1	298.0	895.1
3498	FABRICATED PIPE AND FITTINGS	513	579	278	28.2	390.0	21.4	40.6	265.4	887.2	1 872.7
3499	FABRICATED METAL PRODUCTS, NEC . . .	3 142	3 238	794	70.8	844.7	54.1	104.8	547.8	1 814.5	3 429.2
35	MACHINERY, EXCEPT ELECTRICAL . .	44 974	48 200	12 446	2 083.3	30 557.5	1 413.8	2 803.0	18 298.4	67 222.5	122 187.7
351	ENGINES AND TURBINES	251	315	168	129.6	2 237.6	90.1	181.2	1 404.7	4 959.6	10 426.2
3511	TURBINES, TURBINE GENERATOR SETS . .	68	83	37	40.8	709.1	24.8	51.1	368.5	1 553.1	2 729.7
3519	INTERNAL COMBUSTION ENGINES, NEC . .	187	232	131	88.8	1 528.6	65.3	130.1	1 036.2	3 406.5	7 696.5
352	FARM AND GARDEN MACHINERY.	1 991	2 159	756	150.9	2 196.5	110.8	210.4	1 456.4	5 490.2	11 857.0
3523	FARM MACHINERY AND EQUIPMENT	1 868	2 004	664	131.3	1 971.9	96.2	182.7	1 313.3	4 854.4	10 281.7
3524	LAWN AND GARDEN EQUIPMENT.	137	155	92	19.6	224.6	14.7	27.7	143.1	635.8	1 575.3
353	CONSTRUCTION, RELATED MACHINERY. .	2 777	3 229	1 518	333.0	5 096.7	226.3	443.2	3 184.5	11 835.6	23 681.6
3531	CONSTRUCTION MACHINERY	807	922	446	155.3	2 547.1	111.2	212.7	1 708.1	5 744.3	12 628.7
3532	MINING MACHINERY	293	344	168	31.4	425.9	20.3	39.7	262.9	1 018.8	1 996.7
3533	OILFIELD MACHINERY	386	478	247	58.6	867.5	39.8	83.4	543.3	2 437.6	3 912.4
3534	ELEVATORS AND MOVING STAIRWAYS . . .	134	152	72	10.2	141.9	5.9	11.5	69.4	284.5	489.7
3535	CONVEYORS AND CONVEYING EQUIPMENT. .	572	616	294	32.9	476.5	19.2	38.5	226.6	1 018.9	1 897.9
3536	HOISTS, CRANES, AND MONORAILS. . . .	231	242	121	15.8	210.5	10.6	20.6	122.0	453.2	836.0
3537	INDUSTRIAL TRUCKS AND TRACTORS . . .	450	475	170	28.8	427.3	19.4	36.7	252.2	878.2	1 920.1
354	METALWORKING MACHINERY	10 164	10 630	2 680	297.8	4 513.9	217.8	447.4	2 963.1	8 746.7	13 283.0
3541	MACHINE TOOLS, METAL-CUTTING	874	919	307	59.5	951.0	37.3	76.6	542.2	1 871.0	2 819.1
3542	MACHINE TOOLS, METAL-FORMING	411	426	163	23.7	360.7	16.1	32.8	219.4	721.9	1 130.6
3544	SPECIAL DIES, TOOLS, JIGS, ETC . . .	7 033	7 152	1 426	105.6	1 706.3	86.3	183.8	1 260.4	2 786.9	3 901.3
3545	MACHINE TOOL ACCESSORIES	1 271	1 412	492	54.1	762.5	39.9	80.2	498.2	1 585.8	2 384.5
3546	POWER DRIVEN HANDTOOLS	99	124	71	27.7	325.7	20.0	38.5	210.4	931.9	1 623.2
3547	ROLLING MILL MACHINERY	58	63	38	7.9	128.2	5.4	10.4	78.4	286.9	507.4
3549	METALWORKING MACHINERY, NEC.	522	534	183	19.4	279.5	12.8	25.2	154.1	562.2	916.8
355	SPECIAL INDUSTRY MACHINERY	3 798	4 090	1 487	185.0	2 615.9	117.6	235.7	1 449.9	5 271.4	9 128.2
3551	FOOD PRODUCTS MACHINERY.	685	740	315	36.3	522.1	22.8	45.4	292.6	1 056.4	1 786.8
3552	TEXTILE MACHINERY.	600	639	217	26.0	300.8	18.3	36.3	185.3	540.0	951.0
3553	WOODWORKING MACHINERY.	291	301	105	10.3	131.2	7.4	14.7	81.9	317.8	585.6
3554	PAPER INDUSTRIES MACHINERY	193	213	103	16.4	247.5	9.3	18.8	123.8	464.9	826.9
3555	PRINTING TRADES MACHINERY.	520	595	199	25.5	369.2	15.6	31.7	192.9	793.6	1 350.9
3559	SPECIAL INDUSTRY MACHINERY, NEC. . .	1 548	1 602	548	70.6	1 045.1	44.1	88.7	573.4	2 098.7	3 627.0
356	GENERAL INDUSTRIAL MACHINERY . . .	4 464	4 947	1 806	313.5	4 451.1	212.4	420.6	2 712.4	9 672.6	16 542.0
3561	PUMPS AND PUMPING EQUIPMENT.	515	613	285	63.0	900.6	39.8	79.5	506.9	2 141.6	3 773.7
3562	BALL AND ROLLER BEARINGS	102	149	104	50.6	752.6	41.3	82.4	579.9	1 472.7	2 567.3
3563	AIR AND GAS COMPRESSORS.	148	175	103	32.0	465.6	19.1	38.2	255.2	1 145.5	2 075.6
3564	BLOWERS AND FANS	432	482	198	28.0	356.8	18.6	36.7	209.6	776.7	1 430.8
3565	INDUSTRIAL PATTERNS.	1 001	1 002	115	9.3	152.7	8.0	15.8	122.2	252.5	320.6
3566	SPEED CHANGERS, DRIVES, AND GEARS. .	307	327	162	25.3	365.4	17.6	35.0	226.7	803.1	1 222.3
3567	INDUSTRIAL FURNACES AND OVENS. . . .	311	327	137	15.2	209.4	9.3	17.9	107.4	469.3	746.3
3568	POWER TRANSMISSION EQUIPMENT, NEC. .	184	226	163	32.5	464.8	23.8	45.8	306.8	1 009.1	1 626.0
3569	GENERAL INDUSTRIAL MACHINERY, NEC. .	1 586	1 646	539	57.5	783.2	34.9	69.2	397.7	1 602.2	2 779.5
357	OFFICE AND COMPUTING MACHINES. . .	1 175	1 317	610	259.3	3 948.8	123.5	243.3	1 384.4	9 921.4	16 841.9
3573	ELECTRONIC COMPUTING EQUIPMENT . . .	808	932	435	192.7	3 004.3	85.5	172.4	978.4	7 623.5	12 923.6
3574	CALCULATING, ACCOUNTING MACHINES . .	58	64	31	17.1	220.7	10.4	18.1	92.9	391.3	850.0
3576	SCALES, BALANCES, EXC. LABORATORY. .	92	103	46	7.1	84.5	4.7	9.1	46.9	214.9	348.1
3579	OFFICE MACHINES, TYPEWRITERS, ETC. .	191	215	98	42.4	639.1	22.9	43.7	266.1	1 691.4	2 719.7
358	REFRIGERATION AND SERVICE MACH . .	1 922	2 114	837	191.5	2 516.4	138.4	270.7	1 637.4	5 962.6	12 416.1
3581	AUTOMATIC MERCHANDISING MACHINES . .	108	113	35	8.8	103.2	6.4	12.4	65.1	211.7	410.1
3582	COMMERCIAL LAUNDRY EQUIPMENT	90	94	38	4.6	54.4	3.3	6.4	35.6	117.3	220.3
3585	REFRIGERATION, HEATING EQUIPMENT . .	731	860	457	138.6	1 849.7	104.4	205.4	1 270.2	4 469.2	9 638.1
3586	MEASURING AND DISPENSING PUMPS . . .	57	59	30	7.4	97.3	5.1	9.7	57.9	218.0	375.7
3589	SERVICE INDUSTRY MACHINERY, NEC. . .	959	988	277	32.1	411.8	19.2	36.9	208.6	946.4	1 771.8
359	MISC. MACHINERY, EXC. ELEC	19 257	19 399	2 584	222.7	2 980.4	176.8	350.5	2 105.6	5 362.4	8 011.8
3592	CARBURETORS, PISTONS, RINGS, ETC . .	131	151	84	32.2	508.5	26.0	52.5	388.5	924.9	1 400.6
3599	MACHINERY, EXCEPT ELECTRICAL, NEC. .	19 137	19 248	2 500	190.5	2 471.8	150.8	298.0	1 717.1	4 437.6	6 611.2

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972–Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
3449	MISCELLANEOUS METALWORK.	20.5	5.2	15.3	211.8	204.8	91	78	19.5	178.8	362.2	980.4	26.2
345	SCREW MACHINE PROD., BOLTS, ETC. .	184.1	26.6	157.5	944.9	881.3	(NA)	(NA)	100.6	948.0	1 845.3	3 091.5	88.9
3451	SCREW MACHINE PRODUCTS	71.9	9.1	62.8	230.6	207.9	96	92	40.5	357.3	648.5	1 063.8	33.2
3452	BOLTS, NUTS, RIVETS, AND WASHERS . .	112.3	17.5	94.8	714.3	673.3	94	94	60.1	590.7	1 196.8	2 027.6	55.7
346	METAL FORGINGS AND STAMPINGS . . .	604.4	78.9	525.6	2 361.4	2 160.0	(NA)	(NA)	263.5	2 791.4	5 057.3	9 956.9	237.7
3462	IRON AND STEEL FORGINGS.	126.7	16.5	110.2	452.7	429.8	92	84	34.3	387.2	661.8	1 416.1	28.1
3463	NONFERROUS FORGINGS.	13.7	3.6	10.1	123.8	101.1	87	67	5.8	63.7	104.0	222.5	7.0
3465	AUTOMOTIVE STAMPINGS	292.2	25.1	267.1	948.3	872.8	92	91	123.3	1 485.4	2 663.8	5 286.0	117.5
3466	CROWNS AND CLOSURES.	17.1	2.0	15.1	121.0	99.2	95	86	8.1	74.1	166.7	343.5	8.3
3469	METAL STAMPINGS, NEC	154.7	31.6	123.0	715.7	657.2	88	88	92.0	781.0	1 461.0	2 688.8	76.7
347	METAL SERVICES, NEC.	121.1	22.2	98.8	287.2	251.6	(NA)	(NA)	82.1	624.2	1 120.3	1 736.3	64.2
3471	PLATING AND POLISHING.	73.2	14.7	58.4	128.3	112.5	(8)	(8)	54.6	403.1	741.2	1 034.5	40.2
3479	METAL COATING AND ALLIED SERVICES. .	47.9	7.5	40.4	159.0	139.2	(8)	(8)	27.6	221.1	379.2	701.8	24.0
348	ORDNANCE AND ACCESSORIES, NEC. . .	82.5	15.0	67.5	518.8	462.1	(NA)	(NA)	109.5	1 015.3	1 476.0	2 787.0	61.6
3482	SMALL ARMS AMMUNITION.	42.9	5.7	37.1	117.6	121.9	95	90	13.9	129.3	228.6	438.0	10.8
3483	AMMUNITION, EXC. SMALL ARMS, NEC . .	9.2	2.0	7.2	58.3	62.7	83	76	54.9	479.1	624.1	1 477.9	24.5
3484	SMALL ARMS	20.5	6.1	14.4	166.7	153.5	94	99	16.1	152.1	278.6	393.5	11.3
3489	ORDNANCE AND ACCESSORIES NEC	10.1	1.3	8.8	176.2	123.9	81	68	24.6	254.8	344.7	477.7	15.0
349	MISC. FABRICATED METAL PRODUCTS. .	452.0	93.0	359.1	3 080.9	2 847.1	(NA)	(NA)	244.3	2 141.7	4 283.0	7 784.8	212.2
3493	STEEL SPRINGS, EXCEPT WIRE	14.1	2.4	11.7	81.6	73.7	84	72	8.5	79.9	149.7	331.4	6.6
3494	VALVES AND PIPE FITTINGS	201.2	42.5	158.7	1 508.2	1 374.8	89	88	94.3	879.9	1 751.2	2 956.9	79.0
3495	WIRE SPRINGS	27.6	4.5	23.1	104.5	105.9	92	92	23.7	193.2	340.7	611.9	12.9
3496	MISC. FABRICATED WIRE PRODUCTS . . .	47.3	10.6	36.6	252.8	233.6	91	37	33.2	261.4	504.4	959.7	28.9
3497	METAL FOIL AND LEAF.	16.1	1.8	14.3	141.1	124.6	80	63	5.4	51.9	126.5	282.0	8.2
3498	FABRICATED PIPE AND FITTINGS	51.0	12.7	38.3	418.4	395.3	94	93	17.5	164.7	363.1	704.4	14.7
3499	FABRICATED METAL PRODUCTS, NEC . . .	94.8	18.5	76.3	574.3	539.2	89	83	61.8	510.7	1 047.4	1 938.6	61.8
35	MACHINERY, EXCEPT ELECTRICAL . .	4 402.4	948.7	3 453.7	27 170.9	25 153.3	(NA)	(NA)	1 827.7	18 523.3	37 562.9	65 820.7	1 906.3
351	ENGINES AND TURBINES	329.9	44.5	285.4	2 169.6	1 909.0	(NA)	(NA)	116.0	1 320.3	2 899.5	5 507.4	185.5
3511	TURBINES, TURBINE GENERATOR SETS . .	44.1	5.4	38.8	827.6	775.5	92	82	46.2	548.9	1 225.3	2 189.0	93.5
3519	INTERNAL COMBUSTION ENGINES, NEC . .	285.8	39.1	246.7	1 342.0	1 133.5	91	88	69.9	771.4	1 674.2	3 318.4	92.0
352	FARM AND GARDEN MACHINERY.	370.5	75.4	295.1	2 464.1	2 441.7	(NA)	(NA)	125.3	1 211.2	2 701.2	5 590.4	163.6
3523	FARM MACHINERY AND EQUIPMENT	341.9	70.5	271.3	2 083.4	2 088.8	92	95	104.6	1 045.7	2 248.0	4 531.4	116.0
3524	LAWN AND GARDEN EQUIPMENT.	28.6	4.9	23.8	380.7	352.9	92	82	20.7	165.5	453.2	1 059.1	47.6
353	CONSTRUCTION, RELATED MACHINERY. .	932.4	268.4	664.0	6 156.5	6 095.7	(NA)	(NA)	275.4	2 855.7	5 962.2	11 089.5	282.1
3531	CONSTRUCTION MACHINERY	498.3	151.4	346.8	3 142.3	3 171.8	91	95	133.8	1 460.2	3 130.7	6 091.0	159.5
3532	MINING MACHINERY	67.0	23.8	43.2	646.1	603.7	88	86	21.3	197.6	393.2	771.2	13.4
3533	OILFIELD MACHINERY	257.5	67.9	189.7	1 212.5	1 216.0	88	95	35.9	357.5	788.6	1 213.0	54.7
3534	ELEVATORS AND MOVING STAIRWAYS . . .	8.8	1.8	7.1	119.1	123.0	96	93	15.0	144.5	310.2	483.6	7.8
3535	CONVEYORS AND CONVEYING EQUIPMENT. .	34.7	9.0	25.7	363.8	329.9	90	87	27.2	275.5	540.1	968.0	13.2
3536	HOISTS, CRANES, AND MONORAILS. . . .	17.9	4.5	13.3	203.6	196.6	87	76	16.3	160.9	274.7	527.3	13.8
3537	INDUSTRIAL TRUCKS AND TRACTORS . . .	48.3	10.0	38.3	469.1	454.7	94	95	25.8	259.5	524.7	1 035.4	19.7
354	METALWORKING MACHINERY	438.6	79.1	359.5	2 848.1	2 510.1	(NA)	(NA)	268.1	2 858.6	4 901.7	7 267.0	218.8
3541	MACHINE TOOLS, METAL-CUTTING	82.2	15.4	66.8	878.4	741.5	87	92	52.5	573.8	901.7	1 418.1	35.2
3542	MACHINE TOOLS, METAL-FORMING	24.7	3.2	21.5	359.6	317.2	90	87	24.1	265.4	417.7	696.3	17.5
3544	SPECIAL DIES, TOOLS, JIGS, ETC . . .	175.7	29.3	146.4	449.9	378.6	94	79	97.8	1 113.8	1 797.4	2 423.7	97.0
3545	MACHINE TOOL ACCESSORIES	77.2	13.8	63.4	468.5	413.3	89	88	46.7	456.6	876.1	1 243.4	30.2
3546	POWER DRIVEN HANDTOOLS	39.0	7.4	31.6	326.0	311.4	91	90	23.1	202.3	434.5	730.5	20.3
3547	ROLLING MILL MACHINERY	9.1	.6	8.4	131.8	154.5	78	86	10.4	115.2	206.4	327.8	6.3
3549	METALWORKING MACHINERY, NEC.	30.7	9.3	21.5	233.8	193.7	88	82	13.6	131.5	267.9	427.3	12.3
355	SPECIAL INDUSTRY MACHINERY	243.6	58.4	185.2	2 309.2	2 172.4	(NA)	(NA)	190.1	1 853.9	3 731.9	6 207.2	160.0
3551	FOOD PRODUCTS MACHINERY.	46.9	9.0	37.9	499.4	453.4	90	92	31.9	315.9	605.2	1 000.1	21.8
3552	TEXTILE MACHINERY.	32.2	7.9	24.3	233.5	256.7	93	94	32.7	271.0	487.9	823.7	27.6
3553	WOODWORKING MACHINERY.	13.8	3.0	10.8	111.6	100.6	94	95	13.7	123.9	285.1	495.2	12.4
3554	PAPER INDUSTRIES MACHINERY	17.2	4.5	12.6	220.2	225.0	84	90	15.3	159.0	254.0	447.8	8.3
3555	PRINTING TRADES MACHINERY.	46.8	14.0	32.7	355.4	316.7	97	92	23.9	249.4	503.6	823.5	16.1
3559	SPECIAL INDUSTRY MACHINERY, NEC. . .	86.8	20.0	66.8	889.2	820.0	88	85	72.6	734.7	1 596.1	2 616.9	73.8
356	GENERAL INDUSTRIAL MACHINERY . . .	552.7	116.8	435.9	4 013.9	3 698.0	(NA)	(NA)	262.0	2 585.4	5 019.7	8 433.7	232.1
3561	PUMPS AND PUMPING EQUIPMENT.	123.5	26.0	97.5	1 024.0	925.1	88	88	55.5	532.9	1 095.6	1 917.3	56.9
3562	BALL AND ROLLER BEARINGS	132.9	21.6	111.3	621.7	569.0	96	98	50.9	525.5	931.3	1 530.5	51.3
3563	AIR AND GAS COMPRESSORS.	55.8	10.8	45.0	610.9	589.0	88	89	22.9	226.6	467.5	858.4	15.3
3564	BLOWERS AND FANS	37.5	11.2	26.3	242.9	232.6	89	87	23.5	216.1	468.8	805.3	22.2
3565	INDUSTRIAL PATTERNS.	11.1	2.1	9.0	25.2	20.6	97	75	8.5	103.1	161.0	198.0	5.3
3566	SPEED CHANGERS, DRIVES, AND GEARS. .	48.5	11.6	36.9	297.8	283.6	87	84	22.5	224.2	409.0	632.7	21.8
3567	INDUSTRIAL FURNACES AND OVENS. . . .	13.4	2.6	10.8	151.4	118.1	91	90	13.6	138.5	244.3	443.2	7.5
3568	POWER TRANSMISSION EQUIPMENT, NEC. .	50.3	8.1	42.3	418.8	381.8	82	74	27.7	266.5	544.4	876.4	20.4
3569	GENERAL INDUSTRIAL MACHINERY, NEC. .	79.6	22.8	56.8	621.2	578.2	88	86	37.0	351.8	697.7	1 171.9	31.3
357	OFFICE AND COMPUTING MACHINES. . .	826.1	166.1	660.1	3 887.3	3 331.9	(NA)	(NA)	208.4	2 277.3	4 904.5	8 604.9	287.0
3573	ELECTRONIC COMPUTING EQUIPMENT . . .	651.5	107.3	544.2	3 007.9	2 526.0	94	91	144.8	1 668.3	3 497.6	6 471.2	212.8
3574	CALCULATING, ACCOUNTING MACHINES . .	56.3	26.2	30.2	218.2	222.0	84	77	22.5	207.2	407.0	637.1	19.0
3576	SCALES, BALANCES, EXC. LABORATORY. .	6.8	1.5	5.4	85.7	79.6	96	99	6.7	59.3	129.7	200.4	5.7
3579	OFFICE MACHINES, TYPEWRITERS, ETC. .	111.5	31.1	80.4	575.3	504.2	76	91	34.5	342.5	870.1	1 296.2	49.6
358	REFRIGERATION AND SERVICE MACH . .	287.9	55.1	232.8	2 259.5	2 054.1	(NA)	(NA)	197.9	1 863.9	4 426.7	8 711.0	228.2
3581	AUTOMATIC MERCHANDISING MACHINES . .	7.9	1.6	6.3	109.6	83.2	94	93	10.5	83.6	183.4	324.4	5.6
3582	COMMERCIAL LAUNDRY EQUIPMENT	2.2	.4	1.9	53.5	49.1	90	81	4.8	42.2	88.2	157.0	1.2
3585	REFRIGERATION, HEATING EQUIPMENT . .	233.0	42.2	190.8	1 632.7	1 507.9	89	95	150.8	1 442.1	3 517.4	7 083.5	201.2
3586	MEASURING AND DISPENSING PUMPS . . .	6.2	1.1	5.2	97.9	89.5	61	82	7.2	67.3	134.1	232.3	4.5
3589	SERVICE INDUSTRY MACHINERY, NEC. . .	38.5	9.8	28.7	365.9	324.4	91	90	24.4	228.8	503.6	913.8	15.7
359	MISC. MACHINERY, EXC. ELEC	420.8	85.1	335.7	1 062.6	940.4	(NA)	(NA)	184.4	1 697.0	3 015.5	4 409.5	149.2
3592	CARBURETORS, PISTONS, RINGS, ETC . .	79.9	16.7	63.3	240.0	202.7	82	87	26.7	272.3	500.0	744.3	27.1
3599	MACHINERY, EXCEPT ELECTRICAL, NEC. .	340.9	68.4	272.5	822.7	737.6	96	94	157.8	1 424.7	2 515.5	3 665.2	122.2

See footnotes at end of table.

Table 3. **Selected Statistics by Major Industry Group and Industry: 1977 and 1972**–Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
36	ELECTRIC, ELECTRONIC EQUIP . . .	12 554	14 973	6 338	1 723.1	22 544.2	1 191.4	2 309.2	12 951.6	50 365.7	88 433.1
361	ELECTRIC DISTRIBUTING EQUIPMENT. .	753	947	459	115.3	1 431.3	84.9	162.3	909.9	3 335.9	5 771.7
3612	TRANSFORMERS	229	279	143	43.3	529.6	32.8	62.5	349.8	1 170.0	2 209.1
3613	SWITCHGEAR, SWITCHBOARD APPARATUS. .	542	668	316	72.0	901.7	52.1	99.9	560.1	2 165.9	3 562.6
362	ELECTRICAL INDUSTRIAL APPARATUS. .	1 407	1 646	819	198.4	2 542.6	142.0	278.8	1 572.1	5 614.2	9 591.4
3621	MOTORS AND GENERATORS.	343	447	299	96.9	1 177.6	74.2	145.8	802.6	2 609.8	4 462.7
3622	INDUSTRIAL CONTROLS.	676	726	283	55.4	726.6	35.3	69.0	380.1	1 602.2	2 511.4
3623	WELDING APPARATUS, ELECTRIC. . . .	160	176	87	17.5	285.7	11.3	23.0	165.1	582.7	1 189.6
3624	CARBON AND GRAPHITE PRODUCTS . . .	58	74	48	12.1	164.1	9.0	17.7	110.9	408.4	735.2
3629	ELEC. INDUSTRIAL APPARATUS, NEC. . .	213	223	102	16.5	188.6	12.2	23.4	113.4	411.0	692.4
363	HOUSEHOLD APPLIANCES	528	666	342	162.3	1 898.1	128.7	243.1	1 352.1	5 276.2	10 736.5
3631	HOUSEHOLD COOKING EQUIPMENT. . . .	84	96	58	25.4	289.1	19.1	36.8	197.9	[9]784.1	[9]1 707.2
3632	HOUSEHOLD REFRIGERATORS, FREEZERS. .	33	42	25	35.8	468.6	29.8	56.9	358.0	1 166.1	2 576.6
3633	HOUSEHOLD LAUNDRY EQUIPMENT. . . .	21	31	24	19.4	262.4	15.9	29.4	202.4	844.7	1 792.8
3634	ELECTRIC HOUSEWARES AND FANS	239	291	148	47.3	458.7	37.6	71.4	305.0	1 365.7	2 531.2
3635	HOUSEHOLD VACUUM CLEANERS.	32	35	22	10.4	116.6	7.3	12.9	78.9	378.8	639.9
3636	SEWING MACHINES.	86	91	25	8.2	107.0	6.1	10.6	66.8	208.9	304.9
3639	HOUSEHOLD APPLIANCES, NEC.	65	80	40	15.7	195.6	12.8	25.1	143.2	527.9	1 184.0
364	ELEC. LIGHTING, WIRING EQUIP . . .	1 762	2 009	913	165.0	1 925.4	127.2	244.6	1 292.1	4 741.2	8 357.0
3641	ELECTRIC LAMPS	128	167	64	28.7	322.4	25.3	47.5	266.3	1 089.2	1 651.4
3643	CURRENT-CARRYING WIRING DEVICES. . .	361	413	198	43.9	480.3	33.6	66.2	312.1	1 100.1	1 795.2
3644	NONCURRENT-CARRYING WIR'G DEVICES. .	174	202	123	25.8	330.1	18.4	35.9	210.9	744.4	1 421.8
3645	RESIDENTIAL LIGHTING FIXTURES. . . .	675	710	244	23.7	229.5	18.2	33.4	139.4	494.2	986.6
3646	COMMERCIAL LIGHTING FIXTURES	192	218	122	15.6	169.1	11.1	20.6	98.8	434.7	922.7
3647	VEHICULAR LIGHTING EQUIPMENT	70	75	43	14.5	246.0	11.4	23.3	178.8	536.0	908.5
3648	LIGHTING EQUIPMENT, NEC.	211	224	119	12.8	148.0	9.1	17.7	85.8	342.6	671.0
365	RADIO, TV RECEIVING EQUIPMENT. . .	1 223	1 290	325	97.7	1 097.0	75.4	143.8	740.0	3 078.1	6 913.2
3651	RADIO AND TV RECEIVING SETS.	546	581	192	74.6	852.4	57.6	106.6	570.0	2 350.9	5 731.6
3652	PHONO. RECORDS, PRERECORDED TAPE . .	679	709	133	23.1	244.6	17.8	37.2	170.0	727.3	1 181.7
366	COMMUNICATION EQUIPMENT.	2 068	2 385	1 126	458.5	6 995.0	259.6	499.5	3 226.2	14 130.0	22 744.2
3661	TELEPHONE AND TELEGRAPH APPARATUS. .	208	264	154	124.4	1 818.0	87.1	164.2	1 125.9	4 192.0	7 858.3
3662	RADIO AND TV COMMUNICATION EQUIP . .	1 873	2 121	972	334.1	5 177.0	172.4	335.2	2 100.3	9 938.0	14 886.0
367	ELECTRONIC COMPONENTS, ACCESS. . .	4 019	4 455	1 671	373.5	4 556.5	257.9	508.7	2 457.4	9 259.6	15 389.6
3671	ELECTRON TUBES, RECEIVING TYPE . . .	125	146	60	36.7	514.1	27.5	53.7	324.5	909.6	1 581.7
3674	SEMICONDUCTORS, RELATED DEVICES. . .	499	545	219	114.0	1 601.1	63.5	126.5	670.3	3 414.0	5 327.1
3675	ELECTRONIC CAPACITORS.	86	118	97	28.9	260.5	23.4	45.7	179.0	486.1	742.3
3676	ELECTRONIC RESISTORS	77	101	80	21.3	210.9	15.9	32.4	130.6	401.0	578.3
3677	ELECTRONIC COILS AND TRANSFORMERS. .	276	294	194	20.7	166.6	17.1	31.8	113.1	289.1	506.4
3678	ELECTRONIC CONNECTORS.	106	133	107	26.0	303.6	19.1	37.6	185.1	754.2	1 104.6
3679	ELECTRONIC COMPONENTS, NEC	3 005	3 118	914	125.9	1 499.7	91.4	181.0	854.7	3 005.7	5 549.2
369	MISC. ELEC. EQUIPMENT, SUPPLIES. .	1 340	1 575	683	152.4	2 098.3	115.7	228.4	1 401.8	4 930.4	8 929.5
3691	STORAGE BATTERIES.	134	218	134	25.9	358.7	21.1	43.4	276.4	927.8	1 982.5
3692	PRIMARY BATTERIES, DRY AND WET . . .	41	58	33	11.0	118.2	9.0	18.0	87.4	343.2	666.1
3693	X-RAY APPARATUS AND TUBES.	212	243	126	30.9	467.6	17.1	33.3	195.5	1 231.9	1 884.7
3694	ENGINE ELECTRICAL EQUIPMENT.	372	409	181	63.8	948.4	51.8	102.6	708.6	2 041.3	3 647.2
3699	ELECTRICAL EQUIP., SUPPLIES, NEC . .	612	647	209	20.7	205.3	16.7	31.1	133.9	386.2	749.0
37	TRANSPORTATION EQUIPMENT	8 934	10 176	3 653	1 768.2	30 673.5	1 284.4	2 612.7	20 314.3	64 291.1	166 954.0
371	MOTOR VEHICLES AND EQUIPMENT . . .	3 591	4 234	1 708	876.3	16 037.7	727.6	1 524.2	12 682.4	37 023.1	117 746.5
3711	MOTOR VEHICLES AND CAR BODIES. . . .	254	322	119	343.6	7 077.6	289.9	620.4	5 724.9	18 723.7	76 517.8
3713	TRUCK AND BUS BODIES	770	820	313	34.8	428.6	27.4	53.9	307.6	946.3	2 003.3
3714	MOTOR VEHICLE PARTS, ACCESSORIES . .	2 194	2 623	997	450.7	8 004.0	372.5	777.2	6 284.9	16 263.8	35 750.8
3715	TRUCK TRAILERS	316	353	165	28.1	322.0	22.5	43.1	229.9	645.9	1 910.1
3716	MOTOR HOMES.	80	116	114	19.2	205.4	15.4	29.6	135.1	443.3	1 564.5
372	AIRCRAFT AND PARTS	1 027	1 173	549	430.8	7 620.5	240.1	475.0	3 563.5	14 731.7	25 867.1
3721	AIRCRAFT	151	176	74	222.7	3 975.9	119.0	232.7	1 765.2	8 134.1	14 834.2
3724	AIRCRAFT ENGINES AND ENGINE PARTS. .	226	269	177	106.1	1 939.4	62.4	128.7	970.0	3 599.1	6 272.3
3728	AIRCRAFT EQUIPMENT, NEC.	681	728	298	102.0	1 705.2	58.7	113.7	828.3	2 998.4	4 760.6
373	SHIP, BOAT BUILDING, REPAIRING . .	2 692	2 795	736	220.2	2 939.8	175.5	345.6	2 132.1	4 681.4	8 317.8
3731	SHIP BUILDING AND REPAIRING. . . .	542	605	314	176.4	2 494.0	139.9	277.2	1 807.4	3 825.0	6 495.1
3732	BOAT BUILDING AND REPAIRING. . . .	2 148	2 190	422	43.8	445.8	35.6	68.4	324.7	856.3	1 822.6
3743	RAILROAD EQUIPMENT	145	201	118	56.3	888.6	42.6	79.4	619.9	1 882.8	4 278.3
3751	MOTORCYCLES, BICYCLES, AND PARTS . .	343	350	63	15.6	168.9	13.3	24.6	129.9	369.8	1 007.6
376	GUIDED MISSILES, SPACE VEHICLES. .	74	109	86	119.8	2 427.8	46.2	90.2	770.6	4 421.9	6 599.3
3761	GUIDED MISSILES, SPACE VEHICLES. . .	20	40	37	94.0	1 931.5	35.2	67.0	603.8	[2]3 564.8	[2]5 314.4
3764	SPACE PROPULSION UNITS AND PARTS . .	18	25	24	18.6	356.6	7.1	14.9	111.5	620.7	945.5
3769	SPACE VEHICLE EQUIPMENT, NEC	41	42	25	7.2	139.2	3.9	8.3	55.3	236.3	339.4
379	MISC. TRANSPORTATION EQUIPMENT . .	1 206	1 314	393	49.1	590.7	39.1	73.8	415.9	1 180.5	3 137.5
3792	TRAVEL TRAILERS AND CAMPERS.	775	861	266	26.3	275.7	21.8	40.7	197.1	510.3	1 582.4
3795	TANKS AND TANK COMPONENTS.	20	24	18	12.4	208.5	10.0	19.8	156.2	437.6	934.2
3799	TRANSPORTATION EQUIPMENT, NEC. . . .	408	429	109	10.3	106.6	7.4	13.3	62.6	232.7	620.9
38	INSTRUMENTS, RELATED PRODUCTS. .	6 616	7 481	2 538	559.1	7 520.4	347.2	677.9	3 743.2	18 762.0	28 897.8
3811	ENGINEERING, SCIENTIFIC INSTRU . . .	740	786	279	42.3	584.4	24.7	48.7	280.7	1 287.2	1 926.7
382	MEASURING, CONTROLLING DEVICES . .	1 847	2 079	849	200.1	2 665.8	121.4	237.6	1 288.4	5 242.3	7 910.3
3822	ENVIRONMENTAL CONTROLS	182	201	91	39.0	450.3	30.6	57.9	315.6	859.6	1 358.7
3823	PROCESS CONTROL INSTRUMENTS.	383	426	207	46.5	664.8	23.4	47.0	265.9	1 399.4	2 022.0
3824	FLUID METERS AND COUNTING DEVICES. .	100	111	62	15.9	197.6	11.2	22.5	118.0	429.0	650.4
3825	INSTRU. TO MEASURE ELECTRICITY . . .	622	671	279	66.5	889.1	40.4	78.3	414.5	1 807.7	2 761.0
3829	MEASUR'G, CONTROL'G DEVICES, NEC . .	649	670	210	32.3	464.0	15.8	31.8	174.5	746.6	1 118.1

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
36	ELECTRIC, ELECTRONIC EQUIP	2 866.5	519.9	2 346.6	16 058.7	14 273.0	(NA)	(NA)	1 661.1	15 189.0	30 578.5	53 394.3	1 417.5
361	ELECTRIC DISTRIBUTING EQUIPMENT.	141.2	24.7	116.5	1 039.6	944.2	(NA)	(NA)	116.0	1 040.0	2 060.3	3 585.4	63.7
3612	TRANSFORMERS	67.2	8.7	58.5	385.8	344.1	95	97	46.8	420.2	757.3	1 461.9	26.8
3613	SWITCHGEAR, SWITCHBOARD APPARATUS.	73.9	16.0	58.0	653.8	600.1	91	91	69.2	619.8	1 303.0	2 123.5	36.9
362	ELECTRICAL INDUSTRIAL APPARATUS.	311.0	64.5	246.5	2 002.1	1 791.4	(NA)	(NA)	188.0	1 665.1	3 217.9	5 402.3	148.3
3621	MOTORS AND GENERATORS.	162.6	28.7	133.8	771.4	678.0	92	80	90.3	764.4	1 475.2	2 501.7	58.9
3622	INDUSTRIAL CONTROLS.	57.5	12.8	44.7	616.1	563.9	87	86	51.1	465.6	908.4	1 424.1	46.8
3623	WELDING APPARATUS, ELECTRIC.	38.7	14.5	24.1	258.8	226.2	86	94	15.5	173.9	353.5	659.6	11.4
3624	CARBON AND GRAPHITE PRODUCTS	35.4	4.6	30.8	215.9	200.0	94	93	11.3	99.6	217.4	377.4	20.2
3629	ELEC. INDUSTRIAL APPARATUS, NEC.	16.8	3.8	13.0	140.0	123.3	87	81	20.2	165.0	270.0	449.4	11.2
363	HOUSEHOLD APPLIANCES	207.0	42.4	164.6	1 674.7	1 524.3	(NA)	(NA)	163.0	1 369.2	3 563.7	6 940.3	151.8
3631	HOUSEHOLD COOKING EQUIPMENT.	36.1	8.9	27.1	303.8	283.7	92	80	23.3	205.7	412.0	939.8	25.5
3632	HOUSEHOLD REFRIGERATORS, FREEZERS.	46.9	10.7	36.2	399.1	352.1	77	98	34.1	305.3	790.8	1 719.7	25.5
3633	HOUSEHOLD LAUNDRY EQUIPMENT.	27.3	7.6	19.7	170.6	162.1	87	90	23.6	223.1	684.7	1 356.5	31.0
3634	ELECTRIC HOUSEWARES AND FANS	47.8	8.3	39.5	429.5	409.2	87	90	51.3	357.5	909.2	1 613.3	32.6
3635	HOUSEHOLD VACUUM CLEANERS.	16.2	.7	15.5	85.2	81.0	(D)	81	11.2	98.7	299.5	467.7	9.7
3636	SEWING MACHINES.	8.1	.8	7.2	122.3	103.6	(D)	(D)	5.3	54.6	124.6	159.6	9.3
3639	HOUSEHOLD APPLIANCES, NEC.	24.6	5.4	19.2	164.2	132.6	93	79	14.0	123.5	341.4	681.9	18.3
364	ELEC. LIGHTING, WIRING EQUIP	217.1	36.9	180.3	1 414.7	1 267.1	(NA)	(NA)	177.1	1 415.7	3 276.8	5 650.8	159.7
3641	ELECTRIC LAMPS	36.6	5.9	30.7	121.4	104.3	97	98	31.5	239.7	724.4	1 095.7	31.1
3643	CURRENT-CARRYING WIRING DEVICES.	55.8	10.3	45.5	341.5	284.7	84	79	50.4	382.5	792.1	1 255.9	53.7
3644	NONCURRENT-CARRYING WIR'G DEVICES.	32.8	9.4	23.4	350.5	335.3	82	83	25.7	217.0	490.8	886.4	25.2
3645	RESIDENTIAL LIGHTING FIXTURES.	11.8	2.6	9.2	193.2	183.1	95	92	26.5	189.3	390.2	767.2	13.7
3646	COMMERCIAL LIGHTING FIXTURES	18.0	3.5	14.6	182.3	162.5	90	86	18.8	148.3	350.4	718.7	13.7
3647	VEHICULAR LIGHTING EQUIPMENT	46.3	2.5	43.8	97.1	78.2	68	94	13.6	142.1	299.8	499.8	7.2
3648	LIGHTING EQUIPMENT, NEC.	15.8	2.8	13.0	128.6	118.8	85	81	12.7	107.9	254.3	466.5	16.6
365	RADIO, TV RECEIVING EQUIPMENT.	135.7	31.4	104.3	956.2	903.6	(NA)	(NA)	106.9	797.9	2 183.4	5 007.8	75.5
3651	RADIO AND TV RECEIVING SETS.	105.8	26.4	79.4	835.0	794.8	94	98	86.5	651.4	1 807.8	4 440.1	58.6
3652	PHONO. RECORDS, PRERECORDED TAPE	29.8	5.0	24.8	121.3	108.8	99	99	20.3	146.5	375.6	567.7	16.9
366	COMMUNICATION EQUIPMENT.	688.7	118.5	570.2	4 662.0	4 110.5	(NA)	(NA)	453.6	4 912.1	8 453.1	13 665.0	381.4
3661	TELEPHONE AND TELEGRAPH APPARATUS.	217.3	17.1	200.2	1 503.3	1 220.2	94	97	134.4	1 323.0	2 650.1	4 524.7	169.2
3662	RADIO AND TV COMMUNICATION EQUIP	471.4	101.4	370.0	3 158.7	2 890.3	92	92	319.2	3 589.1	5 803.1	9 140.2	212.2
367	ELECTRONIC COMPONENTS, ACCESS.	782.6	126.3	656.3	2 773.3	2 445.6	(NA)	(NA)	335.8	2 869.3	5 305.8	8 825.9	344.4
3671	ELECTRON TUBES, RECEIVING TYPE	52.6	15.2	37.4	254.7	231.1	78	93	11.4	87.7	173.8	230.4	1.8
3674	SEMICONDUCTORS, RELATED DEVICES.	409.0	60.8	348.2	909.5	819.3	93	94	97.6	953.1	1 735.1	2 704.8	170.5
3675	ELECTRONIC CAPACITORS.	34.0	6.7	27.3	152.4	135.8	92	91	27.6	169.2	298.6	445.8	13.4
3676	ELECTRONIC RESISTORS	25.1	2.7	22.4	104.2	93.7	87	81	20.5	144.5	263.5	372.2	10.4
3677	ELECTRONIC COILS AND TRANSFORMERS.	9.2	2.1	7.1	74.5	73.2	91	75	24.2	147.8	228.7	377.8	9.9
3678	ELECTRONIC CONNECTORS.	40.4	3.9	36.6	234.5	204.5	78	86	18.1	141.2	345.6	483.3	12.2
3679	ELECTRONIC COMPONENTS, NEC	212.3	34.9	177.4	1 043.4	888.0	79	74	100.5	846.4	1 577.2	3 046.6	86.1
369	MISC. ELEC. EQUIPMENT, SUPPLIES.	383.2	75.3	308.0	1 536.1	1 286.3	(NA)	(NA)	120.4	1 121.4	2 497.6	4 315.0	93.5
3691	STORAGE BATTERIES.	122.2	31.6	90.7	292.9	239.4	97	99	22.1	209.3	477.8	968.6	30.8
3692	PRIMARY BATTERIES, DRY AND WET	35.4	5.8	29.6	100.1	90.2	96	97	8.4	64.6	221.6	348.1	7.2
3693	X-RAY APPARATUS AND TUBES.	63.4	13.1	50.3	542.3	412.6	98	92	12.1	120.9	311.3	443.7	8.1
3694	ENGINE ELECTRICAL EQUIPMENT.	146.0	21.6	124.3	488.3	442.1	81	89	57.9	591.3	1 212.6	2 035.0	30.8
3699	ELECTRICAL EQUIP., SUPPLIES, NEC	16.2	3.1	13.1	112.4	102.1	94	77	19.3	130.0	263.9	501.8	16.0
37	TRANSPORTATION EQUIPMENT	4 670.9	695.6	3 975.3	22 240.5	20 745.1	(NA)	(NA)	1 719.0	19 880.0	39 799.4	94 704.9	2 660.2
371	MOTOR VEHICLES AND EQUIPMENT	3 636.1	455.0	3 181.2	9 062.6	7 826.8	(NA)	(NA)	807.5	9 460.5	22 056.2	63 921.4	2 093.2
3711	MOTOR VEHICLES AND CAR BODIES.	1 706.1	229.1	1 477.1	4 010.8	3 325.8	95	99	339.2	4 299.5	11 782.5	42 905.6	917.2
3713	TRUCK AND BUS BODIES	44.2	11.2	33.0	352.1	306.0	94	93	42.6	353.8	659.7	1 564.4	48.3
3714	MOTOR VEHICLE PARTS, ACCESSORIES	1 833.2	189.9	1 643.3	4 124.1	3 699.6	94	87	400.9	4 601.5	9 164.7	18 333.5	1 113.1
3715	TRUCK TRAILERS	36.2	15.8	20.3	355.0	283.0	94	96	24.7	205.6	449.3	1 117.9	14.6
3716	MOTOR HOMES.	16.4	8.9	7.5	220.6	212.5	92	94	-	-	-	-	-
372	AIRCRAFT AND PARTS	508.3	89.8	418.5	9 301.8	9 166.0	(NA)	(NA)	438.7	5 281.7	9 123.6	15 451.4	169.0
3721	AIRCRAFT	202.4	40.2	162.2	6 618.5	6 550.7	83	98	231.8	2 867.1	5 083.0	8 779.3	57.1
3724	AIRCRAFT ENGINES AND ENGINE PARTS.	174.9	25.4	149.5	1 440.2	1 360.2	81	95	104.7	1 256.6	1 991.7	3 640.2	73.0
3728	AIRCRAFT EQUIPMENT, NEC.	131.1	24.3	106.8	1 243.1	1 255.2	72	57	102.2	1 158.1	2 048.9	3 031.9	38.9
373	SHIP, BOAT BUILDING, REPAIRING	203.6	82.7	120.9	1 410.6	1 404.9	(NA)	(NA)	185.2	1 703.6	2 398.2	4 329.2	179.1
3731	SHIP BUILDING AND REPAIRING.	161.3	68.0	93.3	1 072.5	1 098.5	97	99	144.6	1 422.3	1 881.3	3 281.0	142.0
3732	BOAT BUILDING AND REPAIRING.	42.3	14.7	27.6	338.0	306.3	98	96	40.6	281.3	516.8	1 048.2	37.2
3743	RAILROAD EQUIPMENT	80.4	16.6	63.8	850.6	822.8	91	94	50.8	529.1	1 113.3	2 446.2	55.3
3751	MOTORCYCLES, BICYCLES, AND PARTS	24.1	6.0	18.1	226.5	182.1	84	97	17.6	139.6	315.2	659.5	16.0
376	GUIDED MISSILES, SPACE VEHICLES.	164.2	27.7	136.5	797.6	850.9	(NA)	(NA)	160.0	2 317.1	3 969.2	5 628.2	92.3
3761	GUIDED MISSILES, SPACE VEHICLES.	125.6	21.8	103.8	600.2	653.0	87	91	118.4	1 751.5	2 948.7	4 123.7	62.9
3764	SPACE PROPULSION UNITS AND PARTS	25.3	5.0	20.3	167.5	175.8	92	88	20.8	276.2	506.6	716.3	18.4
3769	SPACE VEHICLE EQUIPMENT, NEC	13.3	.8	12.5	29.8	22.1	85	(D)	20.9	289.3	513.9	788.2	11.0
379	MISC. TRANSPORTATION EQUIPMENT	54.1	17.7	36.4	590.8	492.4	(NA)	(NA)	59.1	448.4	823.7	2 268.9	55.2
3792	TRAVEL TRAILERS AND CAMPERS.	31.0	12.4	18.6	193.6	196.0	88	90	37.1	266.3	479.9	1 342.2	35.2
3795	TANKS AND TANK COMPONENTS.	13.2	3.2	10.0	287.8	187.9	92	82	5.9	65.0	111.7	272.2	3.1
3799	TRANSPORTATION EQUIPMENT, NEC.	9.8	2.2	7.7	109.4	108.5	94	79	16.1	117.2	232.1	654.6	16.9
38	INSTRUMENTS, RELATED PRODUCTS.	938.9	235.3	703.6	5 810.6	5 311.1	(NA)	(NA)	453.2	4 286.2	10 580.1	15 526.7	480.0
3811	ENGINEERING, SCIENTIFIC INSTRU	57.4	13.2	44.2	470.1	421.4	(NA)	(NA)	-	-	-	-	-
382	MEASURING, CONTROLLING DEVICES	268.0	74.4	193.7	1 979.4	1 752.3	(NA)	(NA)	152.8	1 436.5	2 723.5	3 992.4	104.8
3822	ENVIRONMENTAL CONTROLS	47.7	11.0	36.7	285.9	250.7	80	92	30.7	253.6	511.8	728.1	17.1
3823	PROCESS CONTROL INSTRUMENTS.	52.1	14.9	37.2	555.9	507.8	90	80	35.6	342.9	620.4	883.6	27.3
3824	FLUID METERS AND COUNTING DEVICES.	19.9	4.9	15.0	148.8	136.7	80	80	8.8	76.8	180.9	296.2	7.0
3825	INSTRU. TO MEASURE ELECTRICITY	99.1	28.8	70.3	668.9	580.1	90	89	54.7	523.5	1 046.8	1 540.8	39.3
3829	MEASURI'G, CONTROL'G DEVICES, NEC	49.3	14.8	34.5	320.0	277.0	89	83	24.6	256.7	394.9	601.4	14.7

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
3832	OPTICAL INSTRUMENTS AND LENSES	515	545	199	30.0	421.2	16.9	33.6	188.0	897.4	1 330.4
384	MEDICAL INSTRUMENTS, SUPPLIES	2 058	2 355	679	113.5	1 318.8	76.8	149.2	711.8	3 261.9	5 217.0
3841	SURGICAL AND MEDICAL INSTRUMENTS	575	651	238	43.2	491.4	29.2	57.5	261.4	1 208.8	1 833.1
3842	SURGICAL APPLIANCES AND SUPPLIES	1 017	1 154	322	53.9	624.1	36.8	70.5	345.6	1 594.5	2 597.3
3843	DENTAL EQUIPMENT AND SUPPLIES	507	550	119	16.3	203.3	10.7	21.2	104.8	458.6	786.7
3851	OPHTHALMIC GOODS	593	634	155	30.0	314.1	21.7	43.1	188.4	656.2	971.8
3861	PHOTOGRAPHIC EQUIP. AND SUPPLIES	702	780	265	111.7	1 899.6	61.7	119.4	886.5	6 732.4	9 946.9
3873	WATCHES, CLOCKS, AND WATCHCASES	283	302	112	31.5	316.6	24.0	46.3	199.4	684.5	1 594.7
39	MISC. MANUFACTUR'G INDUSTRIES	16 550	17 259	3 794	440.7	4 406.4	338.7	626.7	2 745.3	10 291.0	19 150.7
391	JEWELRY, SILVER AND PLATED WARE	3 053	3 118	564	61.3	637.6	44.3	81.2	372.8	1 448.5	3 249.3
3911	JEWELRY, PRECIOUS METAL	2 165	2 206	405	42.1	432.0	29.2	53.3	241.4	979.8	2 107.0
3914	SILVERWARE AND PLATED WARE	247	258	67	10.8	119.8	8.3	15.7	80.2	255.1	457.0
3915	JEWELERS' MATS., LAPIDARY WORK	650	654	92	8.3	85.9	6.8	12.2	51.3	213.6	685.2
3931	MUSICAL INSTRUMENTS	400	450	127	25.2	252.7	20.6	38.2	178.2	488.2	924.9
394	TOYS AND SPORTING GOODS	2 713	2 910	835	119.4	1 111.8	93.3	172.4	697.0	2 999.8	5 485.0
3942	DOLLS	223	231	88	9.1	65.3	8.0	13.3	43.5	181.6	340.2
3944	GAMES, TOYS, CHILDREN'S VEHICLES	754	801	251	53.1	520.6	39.2	73.2	295.0	1 544.6	2 719.7
3949	SPORTING AND ATHLETIC GOODS, NEC	1 757	1 878	496	57.2	525.8	46.1	85.9	358.6	1 273.6	2 425.1
395	PENS, OFFICE AND ART GOODS	913	987	261	31.8	331.1	23.3	45.8	203.2	867.6	1 538.4
3951	PENS AND MECHNICAL PENCILS	133	141	78	13.2	135.6	10.4	20.6	92.9	419.8	669.8
3952	LEAD PENCILS AND ART GOODS	127	134	46	6.6	63.1	4.7	9.2	37.6	145.5	275.9
3953	MARKING DEVICES	583	612	86	7.4	78.7	4.7	9.1	39.6	160.0	248.7
3955	CARBON PAPER AND INKED RIBBONS	78	100	51	4.6	53.7	3.4	6.9	33.1	142.4	344.0
396	COSTUME JEWELRY AND NOTIONS	1 458	1 514	467	51.0	450.5	41.6	75.4	293.0	1 002.0	1 766.2
3961	COSTUME JEWELRY	837	847	236	25.0	215.9	20.8	36.1	136.1	485.1	816.6
3962	ARTIFICIAL FLOWERS	222	233	67	5.0	38.2	4.2	7.1	25.2	91.5	180.2
3963	BUTTONS	150	159	47	3.2	30.8	2.6	4.7	20.0	50.0	95.2
3964	NEEDLES, PINS, AND FASTENERS	249	275	117	17.7	165.6	14.0	27.5	111.8	375.4	674.2
399	MISCELLANEOUS MANUFACTURES	8 073	8 280	1 540	152.0	1 622.6	115.7	213.7	1 001.0	3 484.8	6 186.9
3991	BROOMS AND BRUSHES	391	409	153	16.5	163.8	12.7	24.0	101.1	353.6	673.1
3993	SIGNS AND ADVERTISING DISPLAYS	3 373	3 468	627	49.7	566.6	36.8	69.2	343.1	1 060.9	1 738.7
3995	BURIAL CASKETS	376	406	133	12.0	129.7	9.3	17.8	79.7	264.2	505.9
3996	HARD SURFACE FLOOR COVERINGS	20	21	13	6.4	93.5	5.0	10.4	68.6	321.3	607.2
3999	MANUFACTURING INDUSTRIES, NEC	3 921	3 976	614	67.3	669.1	52.0	92.3	408.5	1 484.7	2 662.0
60	ADMINISTRATIVE AND AUXILIARY[10]	-	9 171	4 856	1 074.2	21 981.2	-	-	-	-	-

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							All employees		1972		
		New capital expenditures[4]			Inventories		Ratios						
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
3832	OPTICAL INSTRUMENTS AND LENSES	51.3	18.4	32.9	302.9	271.8	84	82	18.8	193.3	384.3	538.4	12.7
384	MEDICAL INSTRUMENTS, SUPPLIES	172.0	41.6	130.5	1 038.6	941.6	(NA)	(NA)	90.8	757.7	1 821.3	2 824.5	104.4
3841	SURGICAL AND MEDICAL INSTRUMENTS	87.2	21.7	65.5	360.7	322.5	88	80	34.5	282.4	630.0	961.8	42.0
3842	SURGICAL APPLIANCES AND SUPPLIES	68.6	16.2	52.5	503.7	454.7	87	85	43.9	365.3	929.0	1 453.5	47.5
3843	DENTAL EQUIPMENT AND SUPPLIES	16.2	3.7	12.5	174.1	164.3	92	98	12.4	110.0	262.3	409.2	14.9
3851	OPHTHALMIC GOODS	44.1	13.2	30.9	244.9	224.6	92	98	26.6	183.4	416.3	568.3	17.4
3861	PHOTOGRAPHIC EQUIP. AND SUPPLIES	322.7	69.2	253.5	1 503.0	1 428.2	95	95	96.0	1 119.7	4 087.9	5 623.9	202.9
3873	WATCHES, CLOCKS, AND WATCHCASES	23.2	5.4	17.9	271.7	271.2	91	95	30.8	230.3	466.0	937.2	18.8
39	MISC. MANUFACTUR'G INDUSTRIES	473.6	112.1	361.5	3 614.2	3 309.0	(NA)	(NA)	445.6	3 179.8	6 768.7	12 173.2	313.6
391	JEWELRY, SILVER AND PLATED WARE	39.6	10.1	29.4	752.5	670.8	(NA)	(NA)	53.2	424.5	850.8	1 812.5	21.9
3911	JEWELRY, PRECIOUS METAL	25.6	7.9	17.8	489.8	437.4	92	97	32.6	267.2	536.0	1 124.6	10.3
3914	SILVERWARE AND PLATED WARE	8.0	.7	7.3	142.8	136.8	93	98	13.1	106.4	206.8	377.4	9.8
3915	JEWELERS' MATS., LAPIDARY WORK	5.9	1.6	4.4	119.9	96.5	96	89	8.0	55.7	116.4	323.3	5.3
3931	MUSICAL INSTRUMENTS	13.8	2.7	11.2	243.2	245.4	(NA)	(NA)	24.5	173.4	339.3	617.5	10.6
394	TOYS AND SPORTING GOODS	147.6	33.2	114.4	1 079.2	976.0	(NA)	(NA)	132.7	880.9	1 999.3	3 662.6	121.2
3942	DOLLS	6.4	1.4	5.0	62.5	46.6	94	59	10.2	54.0	98.3	199.1	1.7
3944	GAMES, TOYS, CHILDREN'S VEHICLES	78.5	19.5	58.9	437.7	383.3	86	93	61.5	421.0	980.6	1 734.3	72.7
3949	SPORTING AND ATHLETIC GOODS, NEC	62.7	12.3	50.4	579.1	546.1	95	94	61.0	405.9	920.4	1 729.2	46.7
395	PENS, OFFICE AND ART GOODS	55.3	12.6	42.7	276.1	248.4	(NA)	(NA)	31.7	244.3	556.8	926.7	19.8
3951	PENS AND MECHNICAL PENCILS	32.8	9.1	23.7	123.1	108.6	85	94	10.9	81.9	213.7	310.5	7.6
3952	LEAD PENCILS AND ART GOODS	10.8	1.8	9.0	70.9	64.2	85	79	7.1	50.0	108.2	198.8	3.9
3953	MARKING DEVICES	5.5	.8	4.7	34.3	30.8	85	88	8.1	63.2	121.5	180.0	2.6
3955	CARBON PAPER AND INKED RIBBONS	6.2	.9	5.3	47.8	44.7	96	64	5.7	49.1	113.4	237.5	5.7
396	COSTUME JEWELRY AND NOTIONS	44.0	12.0	32.0	274.6	261.1	(NA)	(NA)	50.4	323.1	719.6	1 248.7	33.5
3961	COSTUME JEWELRY	17.6	7.8	9.8	119.6	110.6	92	89	21.4	132.1	275.7	471.6	6.7
3962	ARTIFICIAL FLOWERS	3.0	1.0	2.0	29.5	27.2	98	91	4.8	26.7	57.5	108.7	3.3
3963	BUTTONS	1.4	.3	1.2	13.9	17.6	98	82	4.0	26.7	51.8	93.7	2.3
3964	NEEDLES, PINS, AND FASTENERS	22.0	3.0	19.0	111.6	105.8	92	95	20.2	137.7	334.5	574.7	21.2
399	MISCELLANEOUS MANUFACTURES	173.3	41.4	131.8	988.6	907.3	(NA)	(NA)	153.0	1 133.6	2 302.8	3 905.2	106.6
3991	BROOMS AND BRUSHES	15.7	2.4	13.3	129.9	119.9	91	89	17.5	118.5	235.5	438.3	13.0
3993	SIGNS AND ADVERTISING DISPLAYS	43.0	13.5	29.5	210.8	190.0	98	97	49.8	415.9	747.7	1 198.1	30.6
3995	BURIAL CASKETS	16.3	2.2	14.2	81.8	78.2	99	98	14.8	109.3	210.3	391.9	8.8
3996	HARD SURFACE FLOOR COVERINGS	16.9	1.9	15.1	84.9	76.2	92	98	5.8	59.4	212.0	342.3	14.0
3999	MANUFACTURING INDUSTRIES, NEC	81.3	21.5	59.8	481.1	442.9	91	90	65.1	430.5	897.2	1 534.7	40.2
--	ADMINISTRATIVE AND AUXILIARY[10]	-	-	-	-	-	-	-	994.3	13 772.3	-	-	-

Note: 1977 and 1972 payroll and sales data for small establishments (generally single-unit companies with less than 10 employees) were obtained from administrative records of other government agencies instead of from a census report form. These data were then used in conjunction with industry averages to estimate the balance of the items shown in the table for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time the data were tabulated.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. (X) Not applicable.

[1]The total value of shipments for industry groups (2- and 3-digit) and a few individual industries (4-digit) includes extensive duplication arising from shipments between establishments in the same industry classification.

[2]Establishments in this industry reported value of production instead of value of shipments. Consequently, the formula for computing value added by manufacture was modified to exclude any change in finished product inventories between the beginning and end of the year.

[3]Value added data include government-owned, contractor-operated plants which were estimated based upon averages reported for commercial establishments in prior years. Cost of materials data exclude government-owned materials furnished to government-owned, contractor-operated plants and include fuel and electricity purchased by or for the establishments. Value of shipments data include a calculated value of shipments for government-owned, contractor-operated plants comprised of adjusted value added plus the cost of fuels and electric energy. New capital expenditures include expenditures for plants under construction but not in operation. Capital expenditures of government-owned, contractor-operated plants are excluded from the totals for the industry.

[4]Includes expenditures for plants in operation and for plants under construction but not yet in operation.

[5]Government-owned, privately-operated establishments did not enter into the calculation of "primary product specialization ratio" or "coverage ratio" as all other dollar receipts for these establishments were included in "miscellaneous receipts."

[6]Minumum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[7]The value of shipments and cost of materials for this industry include substantial duplication; therefore, the specialization ratios and coverage ratios were not calculated.

[8]Relationships are not meaningful because of the predominance of receipts for contract and commission work on materials owned by others. Such receipts are treated as primary products for this industry.

[9]Establishments in this industry were requested to report value of work done instead of value of shipments. Consequently, the formula for computing value added by manufacture was not adjusted for any inventory change between the beginning and end of the year.

[10]In 1977 and 1972, in addition to the employment and payroll reported for operating manufacturing establishments, manufacturing concerns reported separately for administrative offices or auxiliary units which serve the manufacturing establishments of a company (e.g., storage warehouses, power plants, research laboratories, garages, repair shops, etc.) rather than the general public. Separate reports were obtained if these units were at different general locations from the establishments served or if they serviced more than one manufacturing establishment. The figures shown for these units do not represent a separate industry but rather a balancing total for all manufacturing industries.

Table 4. Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977

Item	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
ALL INDUSTRIES, TOTAL[1]											
ESTABLISHMENTS, TOTAL	350 757	18 515.1	242 031.9	13 691.0	26 686.7	157 163.7	585 165.6	782 417.7	1 358 526.4	47 459.0	188 436.4
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	140 626	218.5	2 549.8	198.7	320.2	1 674.6	5 628.1	6 486.7	12 651.7	807.1	1 419.2
5 TO 9 EMPLOYEES E4	48 004	322.9	3 696.1	243.9	462.0	2 392.0	8 157.9	9 158.7	17 270.7	570.5	1 990.0
10 TO 19 EMPLOYEES E2	48 250	664.6	7 466.9	492.1	932.2	4 744.8	16 295.4	19 208.0	35 338.4	1 162.4	4 090.0
20 TO 49 EMPLOYEES E1	51 522	1 618.7	18 030.0	1 218.9	2 334.1	11 405.6	41 270.5	53 756.3	94 476.6	3 118.0	10 867.8
50 TO 99 EMPLOYEES	26 707	1 870.8	20 660.2	1 419.2	2 741.3	13 301.2	48 558.3	69 003.1	116 945.7	3 560.3	14 880.5
100 TO 249 EMPLOYEES	21 546	3 336.4	37 772.2	2 532.9	4 930.2	24 928.7	92 231.6	129 861.6	220 484.9	7 812.1	30 940.7
250 TO 499 EMPLOYEES	8 364	2 886.2	33 659.6	2 193.9	4 287.5	22 579.7	85 872.6	119 291.5	203 486.7	7 095.6	29 864.4
500 TO 999 EMPLOYEES	3 677	2 506.3	32 588.8	1 844.0	3 640.7	21 489.1	86 734.0	116 369.8	201 275.9	6 231.8	29 046.5
1,000 TO 2,499 EMPLOYEES	1 480	2 179.7	32 565.3	1 554.6	3 090.3	21 095.3	84 148.4	109 896.2	188 800.0	7 868.6	26 561.8
2,500 OR MORE EMPLOYEES	581	2 911.1	53 043.4	1 991.0	3 948.2	33 552.7	116 268.8	149 385.8	267 795.8	9 232.6	38 774.6
ADMIN. RECORDS ESTABS.[2] E9	144 662	460.7	5 177.7	378.4	669.5	3 348.2	11 110.9	11 591.2	22 702.1	713.5	3 117.4
20 FOOD AND KINDRED PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	26 656	1 520.0	18 543.6	1 072.0	2 112.4	11 730.7	56 062.2	136 963.7	192 911.6	4 214.9	16 984.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	8 843	13.9	164.6	11.7	19.1	101.5	401.0	1 169.8	1 624.3	157.8	104.4
5 TO 9 EMPLOYEES E5	3 332	22.4	246.2	15.4	30.2	148.5	701.1	1 860.8	2 558.1	57.2	179.6
10 TO 19 EMPLOYEES E2	3 439	47.5	523.4	32.8	64.4	309.3	1 526.9	4 496.9	6 014.8	118.8	445.9
20 TO 49 EMPLOYEES	4 420	143.0	1 605.4	95.8	188.7	904.2	4 962.8	14 787.5	19 725.1	393.1	1 413.3
50 TO 99 EMPLOYEES	2 817	197.2	2 271.2	132.8	264.2	1 317.7	6 898.2	21 837.4	28 798.9	556.5	2 394.0
100 TO 249 EMPLOYEES	2 424	377.4	4 464.3	255.6	507.8	2 663.4	13 376.2	33 531.0	46 887.9	1 060.2	4 313.2
250 TO 499 EMPLOYEES	947	330.4	4 007.3	235.3	461.7	2 554.1	12 063.8	25 909.1	37 902.8	857.9	3 800.6
500 TO 999 EMPLOYEES	335	224.9	2 903.1	170.8	337.5	2 038.5	9 314.4	19 385.7	28 624.9	570.1	2 695.0
1,000 TO 2,499 EMPLOYEES	86	119.4	1 616.4	90.6	178.0	1 171.9	4 998.2	10 790.2	15 765.8	305.6	1 219.4
2,500 OR MORE EMPLOYEES	13	43.9	741.7	31.3	60.7	521.8	1 819.6	3 195.4	5 008.9	137.7	419.5
ADMIN. RECORDS ESTABS.[2] E9	9 760	34.2	393.8	25.3	46.1	240.1	988.8	2 393.2	3 382.1	58.0	248.6
21 TOBACCO PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	228	60.6	750.7	50.4	92.6	570.7	4 334.1	4 729.8	9 050.6	181.5	3 711.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E9	71	.1	.8	.1	.2	.6	2.0	6.0	8.5	.6	2.8
5 TO 9 EMPLOYEES E7	20	.1	1.0	.1	.2	.7	2.6	6.5	9.2	.1	3.0
10 TO 19 EMPLOYEES E3	14	.2	1.4	.2	.3	1.1	1.8	10.1	13.4	.2	6.9
20 TO 49 EMPLOYEES	22	.8	5.4	.6	1.2	3.8	8.8	15.9	25.1	.3	9.0
50 TO 99 EMPLOYEES	16	1.1	11.0	.9	1.7	7.1	36.1	80.3	117.4	1.2	41.7
100 TO 249 EMPLOYEES	41	(15.7)	(137.3)	(12.9)	(24.6)	(95.1)	(465.2)	(1 878.4)	(2 326.4)	(62.5)	(990.9)
250 TO 499 EMPLOYEES	27	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 TO 999 EMPLOYEES	7	4.8	44.2	4.1	7.3	33.2	183.4	269.8	452.8	5.0	71.8
1,000 TO 2,499 EMPLOYEES	4	5.9	83.1	5.1	9.6	71.4	539.1	388.8	927.3	7.5	206.0
2,500 OR MORE EMPLOYEES	6	31.9	466.7	26.4	47.6	357.7	3 095.1	2 073.9	5 170.5	104.0	2 379.7
ADMIN. RECORDS ESTABS.[2] E0	82	.3	2.0	.3	.4	1.5	5.7	10.5	16.2	.2	4.6
22 TEXTILE MILL PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	7 202	875.7	7 881.4	764.6	1 523.1	6 202.8	16 104.5	24 753.2	40 550.5	1 223.5	5 509.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E6	1 499	2.3	21.5	2.3	4.1	16.1	27.3	69.5	120.3	3.7	14.8
5 TO 9 EMPLOYEES E6	693	4.7	40.6	4.1	7.8	29.4	77.0	124.0	201.4	5.0	29.9
10 TO 19 EMPLOYEES E4	879	12.2	105.9	10.2	20.0	75.6	217.9	359.2	574.8	14.2	74.3
20 TO 49 EMPLOYEES E1	1 278	41.2	358.3	34.9	66.9	258.4	706.1	1 020.5	1 723.1	46.9	206.3
50 TO 99 EMPLOYEES	830	59.5	514.2	51.4	99.9	386.9	1 028.7	1 481.9	2 496.4	73.0	311.8
100 TO 249 EMPLOYEES	1 018	160.8	1 425.7	139.5	276.7	1 099.3	2 936.5	4 586.7	7 492.5	235.2	902.4
250 TO 499 EMPLOYEES	587	205.0	1 837.1	179.5	361.3	1 463.5	3 735.7	6 123.9	9 805.4	303.3	1 292.2
500 TO 999 EMPLOYEES	309	208.5	1 936.6	183.0	369.9	1 556.5	4 061.2	5 879.5	9 858.3	271.2	1 342.5
1,000 TO 2,499 EMPLOYEES	97	132.3	1 203.5	115.2	230.7	947.8	2 449.5	3 805.4	6 188.6	230.8	954.2
2,500 OR MORE EMPLOYEES	12	49.4	438.0	44.4	85.9	369.4	864.4	1 302.7	2 089.7	40.2	381.4
ADMIN. RECORDS ESTABS.[2] E0	2 062	13.2	109.7	11.8	22.6	82.8	201.0	304.0	505.1	12.4	70.9
23 APPAREL, OTHER TEXTILE PRODS.											
ESTABLISHMENTS, TOTAL[1]	26 505	1 334.3	9 658.6	1 156.6	2 037.6	7 252.8	19 671.3	20 865.5	40 245.1	456.7	5 535.8
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E5	7 826	12.7	115.0	12.5	19.4	85.2	235.8	406.6	700.2	4.7	75.4
5 TO 9 EMPLOYEES E4	3 086	20.9	168.1	18.2	31.3	116.0	352.2	468.5	818.9	7.1	98.5
10 TO 19 EMPLOYEES E2	3 660	51.4	409.5	42.5	74.5	274.0	836.8	1 092.1	1 915.5	16.0	228.2
20 TO 49 EMPLOYEES E1	5 405	173.6	1 274.9	148.1	254.0	902.9	2 633.8	3 140.7	5 724.7	52.7	702.0
50 TO 99 EMPLOYEES E1	3 010	210.6	1 466.1	184.1	317.8	1 091.8	2 953.2	2 985.7	5 903.9	67.4	701.8
100 TO 249 EMPLOYEES	2 424	377.1	2 537.7	330.1	578.0	1 955.1	4 978.6	4 624.5	9 516.3	126.3	1 323.3
250 TO 499 EMPLOYEES	845	286.8	1 950.4	252.3	452.2	1 527.0	3 907.7	3 846.8	7 685.2	100.3	1 173.2
500 TO 999 EMPLOYEES	208	131.8	986.2	112.1	204.3	728.4	2 241.2	2 464.3	4 625.9	40.4	776.2
1,000 TO 2,499 EMPLOYEES	35	48.1	501.9	40.2	77.2	388.0	1 065.5	1 309.9	2 395.7	28.3	353.5
2,500 OR MORE EMPLOYEES	6	21.4	248.7	16.5	29.0	184.3	466.5	526.5	998.8	13.6	103.7
ADMIN. RECORDS ESTABS.[2] E9	8 792	41.9	290.1	38.6	64.6	217.0	538.7	517.8	1 056.6	9.8	138.4

See footnotes at end of table.

Table 4. Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977—Con.

Item	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
24 LUMBER AND WOOD PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	37 302	692.4	7 424.7	594.8	1 147.6	5 795.0	16 222.8	23 918.7	39 919.4	1 562.6	4 663.8
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	21 273	28.9	296.9	28.7	48.3	239.7	717.4	898.3	1 629.5	114.9	155.2
5 TO 9 EMPLOYEES E3	4 756	31.5	304.6	28.1	49.8	240.5	677.1	833.3	1 504.8	73.9	156.0
10 TO 19 EMPLOYEES E1	4 217	57.4	530.3	48.9	86.3	407.7	1 166.3	1 375.9	2 526.0	118.2	274.1
20 TO 49 EMPLOYEES E1	3 695	114.2	1 077.8	96.7	178.9	804.9	2 361.8	3 024.1	5 352.4	219.1	654.6
50 TO 99 EMPLOYEES	1 786	127.2	1 290.8	108.0	210.8	980.9	2 810.3	4 393.5	7 144.8	230.8	920.7
100 TO 249 EMPLOYEES	1 224	183.0	2 032.7	155.8	311.5	1 589.3	4 370.9	6 990.1	11 286.7	369.6	1 289.9
250 TO 499 EMPLOYEES	278	92.8	1 116.9	80.1	162.9	906.9	2 450.6	3 737.6	6 151.3	234.4	695.9
500 TO 999 EMPLOYEES	60	39.3	510.7	33.4	68.7	409.7	1 135.9	1 901.8	3 027.8	144.8	349.5
1,000 TO 2,499 EMPLOYEES	12	(18.1)	(264.1)	(15.2)	(30.4)	(215.4)	(532.5)	(763.9)	(1 296.2)	(56.9)	(167.9)
2,500 OR MORE EMPLOYEES	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
ADMIN. RECORDS ESTABS.[2] E9	19 523	37.5	363.0	36.0	61.9	287.5	803.9	1 037.2	1 841.1	101.0	188.5
25 FURNITURE AND FIXTURES											
ESTABLISHMENTS, TOTAL[1]	10 235	463.8	4 448.3	383.6	736.4	3 191.8	8 921.7	8 187.4	16 978.0	388.7	2 750.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	3 762	6.1	57.9	5.9	9.7	40.8	113.0	109.1	235.9	7.2	35.2
5 TO 9 EMPLOYEES E5	1 445	9.8	94.3	8.2	15.2	65.9	186.2	168.1	352.8	7.5	51.9
10 TO 19 EMPLOYEES E3	1 440	19.9	192.2	16.0	30.5	132.8	365.6	355.7	715.9	13.8	97.3
20 TO 49 EMPLOYEES E1	1 615	51.1	495.0	41.2	78.5	340.9	952.4	939.5	1 880.4	35.5	257.3
50 TO 99 EMPLOYEES	885	62.6	586.9	51.4	97.6	410.4	1 197.7	1 159.2	2 337.4	52.2	343.9
100 TO 249 EMPLOYEES	690	106.6	1 003.3	87.4	166.5	713.9	2 013.7	1 908.8	3 876.0	84.8	651.9
250 TO 499 EMPLOYEES	254	87.5	811.2	74.0	142.1	606.5	1 686.2	1 596.9	3 234.4	80.8	558.2
500 TO 999 EMPLOYEES	116	75.8	722.9	62.7	124.0	532.7	1 413.0	1 261.3	2 654.1	57.0	454.4
1,000 TO 2,499 EMPLOYEES	26	(44.5)	(484.5)	(36.8)	(72.2)	(347.9)	(993.9)	(688.9)	1 671.2)	(49.8)	(300.2)
2,500 OR MORE EMPLOYEES	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
ADMIN. RECORDS ESTABS.[2] E9	4 368	17.4	153.0	15.6	27.6	110.3	289.9	276.7	566.7	11.0	92.0
26 PAPER AND ALLIED PRODUCTS											
ESTABLISHMENTS, TOTAL	6 545	628.7	8 942.9	486.3	985.9	6 323.1	22 170.9	30 148.2	52 085.7	3 295.0	5 641.5
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E6	1 126	2.2	22.3	1.7	2.8	14.9	44.6	65.9	118.3	(61.8)	14.2
5 TO 9 EMPLOYEES E5	600	4.2	48.2	3.2	6.3	31.8	108.6	161.9	270.2	(D)	31.4
10 TO 19 EMPLOYEES E4	819	11.4	132.4	8.7	17.0	85.8	294.3	403.9	697.8	44.3	77.0
20 TO 49 EMPLOYEES	1 313	42.9	491.9	33.5	65.6	317.7	1 121.3	1 511.6	2 622.4	133.0	252.3
50 TO 99 EMPLOYEES	963	69.1	832.7	53.9	108.1	562.8	1 899.9	2 687.4	4 565.3	162.0	511.7
100 TO 249 EMPLOYEES	1 185	178.8	2 378.1	137.1	278.1	1 642.8	5 101.0	8 056.1	13 111.8	504.7	1 516.5
250 TO 499 EMPLOYEES	315	106.6	1 531.3	84.0	173.0	1 120.4	3 961.6	5 406.2	9 304.3	465.9	1 045.9
500 TO 999 EMPLOYEES	153	105.9	1 737.0	83.7	172.9	1 319.1	4 990.5	6 693.5	11 594.5	955.1	1 201.5
1,000 TO 2,499 EMPLOYEES	68	99.3	1 652.9	75.0	151.7	1 167.2	4 354.4	4 905.4	9 253.4	920.7	926.6
2,500 OR MORE EMPLOYEES	3	8.7	116.0	5.5	10.4	60.5	294.7	256.2	547.7	47.4	64.3
ADMIN. RECORDS ESTABS.[2] E9	1 523	9.5	114.7	7.4	14.3	75.5	230.3	332.2	562.5	16.0	67.8
27 PRINTING AND PUBLISHING											
ESTABLISHMENTS, TOTAL[1]	49 676	1 092.2	14 024.5	625.8	1 152.8	7 322.1	31 979.5	17 794.7	49 716.2	1 597.8	4 200.6
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	27 530	40.7	508.1	33.1	48.4	295.1	1 157.7	674.9	1 866.1	62.8	140.4
5 TO 9 EMPLOYEES E3	6 933	46.3	539.4	30.3	52.7	316.4	1 100.3	649.6	1 744.1	57.6	126.7
10 TO 19 EMPLOYEES E1	6 159	84.0	941.6	54.3	94.2	550.6	1 847.1	1 076.7	2 909.4	87.7	224.3
20 TO 49 EMPLOYEES E1	5 122	156.0	1 865.0	100.8	188.8	1 061.8	3 804.4	2 143.5	5 924.1	214.1	450.3
50 TO 99 EMPLOYEES	2 114	145.0	1 803.8	90.3	172.6	1 014.5	3 804.2	2 219.4	5 998.8	209.3	535.4
100 TO 249 EMPLOYEES	1 258	189.0	2 367.4	114.5	220.3	1 327.2	5 461.4	3 211.4	8 620.7	311.5	805.0
250 TO 499 EMPLOYEES	375	128.6	1 619.7	69.0	130.2	845.3	4 075.1	2 310.2	6 373.7	245.7	666.1
500 TO 999 EMPLOYEES	182	123.9	1 657.2	57.5	107.8	738.2	4 583.8	2 440.2	7 018.7	147.8	620.1
1,000 TO 2,499 EMPLOYEES	75	112.8	1 643.0	50.7	94.1	740.3	3 844.6	1 853.1	5 673.4	170.3	433.7
2,500 OR MORE EMPLOYEES	19	65.9	1 079.4	25.3	43.7	432.7	2 300.9	1 215.8	3 587.2	90.9	198.6
ADMIN. RECORDS ESTABS.[2] E9	24 655	45.1	554.9	34.1	52.7	314.5	1 226.7	693.3	1 920.1	58.8	151.9
28 CHEMICALS AND ALLIED PRODUCTS[1]											
ESTABLISHMENTS, TOTAL	12 173	880.2	13 839.3	543.8	1 089.9	7 446.2	56 720.6	62 293.8	118 153.6	8 198.9	14 791.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E5	4 086	6.5	89.4	4.8	8.1	45.2	334.8	429.6	800.9	148.9	95.0
5 TO 9 EMPLOYEES E3	1 738	11.8	159.5	7.3	14.7	82.9	662.8	784.8	1 447.9	62.4	157.4
10 TO 19 EMPLOYEES E1	1 744	24.0	327.0	14.5	28.7	160.7	1 335.5	1 680.0	3 005.5	144.5	343.5
20 TO 49 EMPLOYEES	2 026	63.3	859.4	38.2	76.6	422.3	3 363.1	4 947.4	8 260.9	442.4	975.6
50 TO 99 EMPLOYEES	1 061	74.0	1 013.7	44.5	90.0	512.4	4 073.8	5 886.0	9 904.7	479.7	1 274.0
100 TO 249 EMPLOYEES	812	125.2	1 830.5	78.4	160.7	1 014.7	7 941.7	10 318.3	18 095.8	1 628.9	2 411.8
250 TO 499 EMPLOYEES	348	121.4	1 886.4	77.4	158.5	1 104.5	8 987.2	10 761.5	19 590.7	1 526.6	2 422.0
500 TO 999 EMPLOYEES	213	146.8	2 410.6	93.9	189.5	1 384.3	11 261.9	11 163.9	22 283.9	974.0	2 642.5
1,000 TO 2,499 EMPLOYEES	109	165.3	2 764.6	103.0	205.1	1 516.9	11 635.3	10 598.3	22 009.5	2 158.7	2 921.9
2,500 OR MORE EMPLOYEES	36	141.8	2 498.2	81.7	157.9	1 202.5	7 124.5	5 723.9	12 753.7	632.8	1 547.6
ADMIN. RECORDS ESTABS.[2] E9	3 965	13.6	189.3	8.9	16.4	95.0	674.8	663.1	1 337.8	57.0	171.6

See footnotes at end of table.

Table 4. **Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977**—Con.

Item	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
29 PETROLEUM AND COAL PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	2 206	146.8	2 696.2	101.1	207.9	1 765.4	16 377.6	81 655.4	97 452.7	2 261.3	5 656.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E1	710	1.4	21.1	1.2	2.2	13.9	96.0	327.1	431.8	11.5	19.3
5 TO 9 EMPLOYEES E1	422	2.8	40.1	1.9	4.1	25.4	139.2	422.2	559.3	18.7	28.1
10 TO 19 EMPLOYEES	300	4.1	57.3	2.8	5.8	34.8	201.0	549.3	749.3	17.8	52.0
20 TO 49 EMPLOYEES	348	10.8	159.6	7.2	14.8	94.4	701.0	2 399.5	3 096.0	160.7	210.1
50 TO 99 EMPLOYEES	148	10.6	157.0	7.1	14.5	95.9	586.6	2 406.4	2 986.6	68.6	198.2
100 TO 249 EMPLOYEES	150	24.6	412.2	17.9	38.1	287.0	2 092.3	10 211.0	12 213.3	249.5	876.8
250 TO 499 EMPLOYEES	63	21.2	401.1	14.8	31.3	271.6	2 575.9	15 786.3	18 166.2	610.9	1 278.8
500 TO 999 EMPLOYEES	45	31.6	632.9	20.9	42.4	406.9	4 396.4	22 669.4	26 952.8	489.5	1 461.0
1,000 TO 2,499 EMPLOYEES	18	(39.8)	(814.8)	(27.4)	(54.7)	(535.4)	(5 589.1)	(26 884.3)	(32 297.5)	(634.2)	(1 532.1)
2,500 OR MORE EMPLOYEES	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
ADMIN. RECORDS ESTABS.[2] E0	324	.9	12.7	.7	1.3	7.6	36.2	65.7	101.9	3.3	7.5
30 RUBBER, MISC. PLASTICS PROD.											
ESTABLISHMENTS, TOTAL[1]	11 943	721.3	8 536.0	563.7	1 110.6	5 841.6	19 740.0	20 217.8	39 552.8	1 645.3	4 952.7
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	3 402	5.5	60.0	5.3	8.6	39.6	140.1	161.3	315.0	14.6	35.9
5 TO 9 EMPLOYEES E5	1 604	10.8	119.2	8.4	16.5	78.4	263.4	289.9	552.7	25.4	63.6
10 TO 19 EMPLOYEES E2	1 643	22.9	246.8	17.7	34.4	156.9	567.2	627.1	1 187.4	53.9	137.0
20 TO 49 EMPLOYEES	2 257	71.7	730.6	57.0	110.4	472.8	1 803.3	1 986.0	3 761.0	185.6	409.8
50 TO 99 EMPLOYEES	1 483	104.9	1 049.9	83.5	162.5	697.5	2 473.9	2 906.4	5 346.6	230.0	596.5
100 TO 249 EMPLOYEES	1 025	159.7	1 694.0	127.7	251.2	1 164.3	3 788.1	4 098.0	7 838.0	391.1	963.5
250 TO 499 EMPLOYEES	340	113.5	1 288.3	88.2	177.6	867.5	3 113.9	2 825.2	5 873.7	217.1	770.0
500 TO 999 EMPLOYEES	105	69.4	821.1	54.7	109.3	586.6	1 928.7	1 772.9	3 698.6	138.5	461.8
1,000 TO 2,499 EMPLOYEES	70	108.5	1 575.6	83.3	163.6	1 143.8	3 967.7	3 907.7	7 695.2	248.0	1 129.0
2,500 OR MORE EMPLOYEES	14	54.4	950.4	37.9	76.5	634.3	1 693.7	1 643.3	3 284.7	141.0	385.5
ADMIN. RECORDS ESTABS.[2] E9	4 093	16.6	177.2	13.9	25.6	118.1	389.5	402.0	791.5	32.5	95.7
31 LEATHER AND LEATHER PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	3 075	242.5	1 859.7	211.5	381.9	1 408.1	3 718.8	3 932.6	7 607.4	96.2	1 098.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	930	1.6	12.5	1.5	2.4	8.7	15.4	31.2	58.3	.6	7.9
5 TO 9 EMPLOYEES E4	326	2.2	18.2	1.9	3.5	12.5	36.7	58.8	95.7	1.1	11.5
10 TO 19 EMPLOYEES E2	332	4.7	38.4	3.9	7.2	26.1	77.3	115.0	191.1	1.5	24.4
20 TO 49 EMPLOYEES E2	456	14.5	110.3	12.5	22.1	80.9	204.0	251.9	454.2	7.7	59.7
50 TO 99 EMPLOYEES	368	25.9	200.7	22.1	39.6	145.1	380.3	460.5	843.6	11.4	116.1
100 TO 249 EMPLOYEES	337	55.9	421.5	49.1	88.1	320.2	859.0	907.9	1 748.3	23.1	256.5
250 TO 499 EMPLOYEES	265	93.6	681.5	83.6	149.9	552.4	1 421.7	1 396.9	2 796.2	32.9	354.4
500 TO 999 EMPLOYEES	56	36.1	286.5	30.8	57.8	210.5	554.5	531.3	1 068.5	14.2	196.0
1,000 TO 2,499 EMPLOYEES	5	8.0	90.1	6.0	11.3	51.8	169.9	179.0	351.5	3.6	72.4
ADMIN. RECORDS ESTABS.[2] E9	1 000	3.6	27.2	3.3	5.6	19.8	50.7	56.7	107.4	1.4	14.8
32 STONE, CLAY, GLASS PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	17 744	613.7	7 943.1	484.4	960.7	5 766.6	19 129.6	16 444.8	35 476.6	1 881.4	4 279.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E6	6 648	11.2	131.9	10.4	18.0	91.0	334.1	342.9	694.5	61.4	58.2
5 TO 9 EMPLOYEES E3	2 844	19.2	234.0	14.6	28.6	158.0	559.9	621.2	1 178.0	52.1	94.1
10 TO 19 EMPLOYEES E1	3 051	42.3	502.9	31.0	60.7	327.5	1 191.9	1 364.0	2 550.4	121.2	198.0
20 TO 49 EMPLOYEES	2 862	87.4	1 067.8	65.5	129.2	683.2	2 398.3	2 703.1	5 082.6	253.8	437.6
50 TO 99 EMPLOYEES	1 103	76.1	919.6	58.5	117.1	634.1	2 138.8	2 094.4	4 214.4	212.4	454.8
100 TO 249 EMPLOYEES	803	122.4	1 597.8	97.4	196.9	1 175.8	4 042.1	3 555.0	7 591.4	514.2	1 037.1
250 TO 499 EMPLOYEES	257	89.0	1 164.0	72.0	144.2	881.0	2 918.6	2 296.2	5 188.7	301.3	715.9
500 TO 999 EMPLOYEES	128	90.7	1 213.4	75.9	148.0	959.3	3 090.5	1 950.8	5 059.0	212.3	703.0
1,000 TO 2,499 EMPLOYEES	42	57.7	822.4	47.6	91.8	649.8	1 777.3	1 043.8	2 821.7	111.5	393.5
2,500 OR MORE EMPLOYEES	6	17.6	289.3	13.4	26.2	207.0	677.9	473.4	1 095.9	41.2	187.1
ADMIN. RECORDS ESTABS.[2] E9	6 310	17.8	202.1	15.4	27.4	138.6	453.6	421.5	875.1	41.0	93.5
33 PRIMARY METAL INDUSTRIES											
ESTABLISHMENTS, TOTAL[1]	7 375	1 113.6	18 745.0	885.3	1 744.0	14 065.2	37 568.2	66 171.3	103 179.4	4 496.8	18 458.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	1 589	2.7	35.6	2.7	4.4	25.6	31.1	113.9	186.6	19.4	26.7
5 TO 9 EMPLOYEES E6	817	5.6	72.4	4.5	8.7	50.9	138.5	210.2	346.7	13.0	49.8
10 TO 19 EMPLOYEES E3	988	13.6	174.2	10.8	21.2	120.4	351.9	492.6	842.1	30.4	110.3
20 TO 49 EMPLOYEES E1	1 347	43.6	542.4	35.2	68.9	373.7	1 226.2	1 942.2	3 149.9	119.6	385.1
50 TO 99 EMPLOYEES	901	64.0	795.5	51.4	102.1	559.7	1 812.7	3 414.1	5 214.5	181.5	743.5
100 TO 249 EMPLOYEES	934	148.8	1 960.8	118.7	238.1	1 418.9	4 191.7	7 641.7	11 801.9	426.0	1 785.8
250 TO 499 EMPLOYEES	412	142.2	2 080.7	112.0	223.4	1 519.2	4 484.0	8 593.0	12 974.2	422.7	2 310.1
500 TO 999 EMPLOYEES	215	146.5	2 380.1	115.5	231.4	1 788.2	5 450.9	10 462.2	15 864.1	495.9	2 771.7
1,000 TO 2,499 EMPLOYEES	99	142.2	2 569.9	112.0	222.7	1 963.5	5 026.1	8 908.0	13 776.4	767.9	2 466.4
2,500 OR MORE EMPLOYEES	73	404.5	8 133.4	322.6	623.1	6 245.2	14 855.2	24 393.6	39 023.0	2 020.4	7 809.1
ADMIN. RECORDS ESTABS.[2] E9	2 189	11.4	151.8	9.6	17.8	109.9	275.7	435.6	711.4	28.2	111.1

See footnotes at end of table.

Table 4. **Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977**—Con.

Item	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
34 FABRICATED METAL PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	33 712	1 555.7	21 035.9	1 191.6	2 373.8	14 428.8	45 511.5	45 384.8	90 023.5	2 606.1	15 306.2
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	10 614	17.9	212.6	16.9	27.8	141.1	421.4	426.3	892.0	29.2	140.5
5 TO 9 EMPLOYEES E4	4 746	32.3	390.3	25.1	50.0	259.8	776.5	713.8	1 485.4	50.2	221.7
10 TO 19 EMPLOYEES E2	5 612	78.1	938.3	59.2	117.0	606.7	1 848.0	1 835.9	3 670.3	110.5	520.8
20 TO 49 EMPLOYEES E1	6 452	202.5	2 463.9	156.4	308.6	1 609.9	5 181.3	5 321.4	10 432.7	294.4	1 481.6
50 TO 99 EMPLOYEES	2 970	205.3	2 498.8	159.3	316.6	1 667.8	5 464.6	5 816.9	11 183.7	369.1	1 816.8
100 TO 249 EMPLOYEES	2 182	335.1	4 244.5	256.8	512.6	2 881.2	9 715.8	10 822.1	20 301.1	645.7	3 657.6
250 TO 499 EMPLOYEES	746	255.1	3 382.9	193.5	384.3	2 340.0	7 683.9	8 225.7	15 726.2	396.5	2 945.7
500 TO 999 EMPLOYEES	277	187.6	2 574.4	140.2	276.6	1 782.9	5 766.5	5 034.9	10 685.2	251.5	2 268.8
1,000 TO 2,499 EMPLOYEES	78	115.6	1 780.6	82.6	168.3	1 177.5	4 035.6	2 886.8	6 813.7	186.8	1 322.2
2,500 OR MORE EMPLOYEES.	35	126.1	2 549.7	101.6	212.1	1 961.9	4 618.0	4 301.0	8 833.1	272.2	930.6
ADMIN. RECORDS ESTABS.[2] E9	11 868	47.2	565.2	38.9	71.5	377.5	1 140.3	1 068.5	2 208.8	64.0	392.9
35 MACHINERY, EXCEPT ELECTRICAL											
ESTABLISHMENTS, TOTAL[1]	48 200	2 083.3	30 557.5	1 413.8	2 803.0	18 298.4	67 222.5	56 531.6	122 187.7	4 402.4	27 170.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	20 186	33.5	439.0	31.2	51.7	295.1	845.7	523.5	1 441.8	69.7	219.2
5 TO 9 EMPLOYEES E5	7 909	53.2	704.1	39.5	79.7	463.5	1 310.9	798.8	2 096.6	85.7	328.9
10 TO 19 EMPLOYEES E2	7 654	104.8	1 383.2	76.7	153.2	906.0	2 495.6	1 592.6	4 050.4	168.3	613.6
20 TO 49 EMPLOYEES E1	6 450	198.2	2 688.9	146.7	295.1	1 742.2	5 139.6	3 463.7	8 487.0	307.0	1 456.4
50 TO 99 EMPLOYEES	2 632	182.0	2 482.3	129.9	261.6	1 539.2	5 027.7	3 802.9	8 703.8	341.5	1 843.0
100 TO 249 EMPLOYEES	1 854	287.8	3 901.1	195.7	392.8	2 324.6	8 661.7	7 154.0	15 504.6	467.5	3 859.1
250 TO 499 EMPLOYEES	775	270.0	3 724.1	178.8	358.1	2 170.9	8 379.6	6 981.1	15 107.0	517.3	4 020.9
500 TO 999 EMPLOYEES	453	317.2	4 590.0	201.6	398.8	2 597.9	10 214.5	9 227.2	19 148.5	594.8	5 167.0
1,000 TO 2,499 EMPLOYEES	218	325.2	5 023.2	215.8	425.8	3 028.4	12 242.2	10 296.3	22 337.5	796.5	5 045.0
2,500 OR MORE EMPLOYEES.	69	311.2	5 621.7	197.9	386.1	3 230.7	12 905.1	12 691.6	25 310.5	1 094.1	4 617.9
ADMIN. RECORDS ESTABS.[2] E9	22 030	69.1	906.4	55.3	100.0	577.8	1 825.2	1 239.6	3 064.9	119.5	576.9
36 ELECTRIC, ELECTRONIC EQUIP.											
ESTABLISHMENTS, TOTAL.	14 973	1 723.1	22 544.2	1 191.4	2 309.2	12 951.6	50 365.7	39 369.5	88 433.1	2 866.5	16 058.7
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	4 904	7.7	91.4	6.7	10.6	52.6	154.8	155.2	351.5	11.1	63.8
5 TO 9 EMPLOYEES E7	1 926	12.9	151.1	9.1	17.5	86.8	316.4	251.3	567.2	17.8	102.6
10 TO 19 EMPLOYEES E5	1 805	24.9	293.8	17.4	34.0	164.4	604.0	487.7	1 086.6	32.9	202.7
20 TO 49 EMPLOYEES E1	2 087	67.4	751.3	48.7	93.7	429.1	1 605.4	1 281.4	2 860.6	81.8	494.8
50 TO 99 EMPLOYEES	1 381	98.2	1 057.4	72.1	138.1	619.1	2 296.6	1 834.5	4 070.4	133.4	761.0
100 TO 249 EMPLOYEES	1 436	226.3	2 445.7	164.5	317.7	1 449.2	5 743.9	4 860.7	10 421.9	312.0	2 115.5
250 TO 499 EMPLOYEES	709	246.8	2 785.1	178.1	346.8	1 672.6	6 595.9	5 511.6	11 949.8	399.0	2 422.8
500 TO 999 EMPLOYEES	420	293.8	3 596.8	209.3	404.9	2 167.0	8 434.4	6 020.1	14 216.1	484.6	2 785.2
1,000 TO 2,499 EMPLOYEES	204	305.1	4 255.2	209.9	408.0	2 448.6	9 511.0	7 436.5	16 722.3	493.2	2 905.1
2,500 OR MORE EMPLOYEES.	101	440.0	7 116.4	275.5	537.8	3 862.4	15 103.3	11 530.5	26 186.8	900.6	4 205.3
ADMIN. RECORDS ESTABS.[2] E9	6 203	31.5	377.2	22.9	42.5	211.9	764.7	584.8	1 349.5	42.5	255.2
37 TRANSPORTATION EQUIPMENT											
ESTABLISHMENTS, TOTAL[1]	10 176	1 768.2	30 673.5	1 284.4	2 612.7	20 314.3	64 291.1	103 489.6	166 954.0	4 670.9	22 240.5
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	4 032	6.2	77.9	6.0	9.7	56.6	139.7	191.3	344.3	9.2	58.0
5 TO 9 EMPLOYEES E7	1 312	8.8	109.6	7.1	13.7	78.4	199.6	245.8	445.6	12.3	73.9
10 TO 19 EMPLOYEES E4	1 179	16.0	191.4	12.5	24.1	133.6	353.8	424.5	776.0	25.5	137.2
20 TO 49 EMPLOYEES E1	1 271	40.5	476.8	31.7	61.9	323.0	897.6	1 080.8	1 963.3	70.3	337.2
50 TO 99 EMPLOYEES	820	58.1	684.4	45.4	88.4	463.7	1 368.2	1 709.5	3 028.7	79.7	542.4
100 TO 249 EMPLOYEES	685	107.2	1 293.1	82.8	159.9	868.7	2 712.0	3 281.2	5 946.9	232.8	1 081.4
250 TO 499 EMPLOYEES	378	132.1	1 643.0	103.7	203.3	1 150.2	3 582.6	4 148.4	7 655.0	166.7	1 429.3
500 TO 999 EMPLOYEES	192	133.1	1 850.4	98.8	194.3	1 237.1	3 718.4	4 255.4	7 943.5	195.9	1 588.0
1,000 TO 2,499 EMPLOYEES	146	221.2	3 682.7	170.4	336.4	2 641.5	8 276.8	10 992.8	19 223.3	519.3	2 792.0
2,500 OR MORE EMPLOYEES.	161	1 044.9	20 664.3	726.0	1 520.9	13 361.4	43 042.5	77 159.9	119 627.5	3 359.2	14 201.1
ADMIN. RECORDS ESTABS.[2] E9	4 514	17.2	227.2	14.5	26.7	161.5	411.6	503.9	915.5	23.7	159.4
38 INSTRUMENTS, RELATED PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	7 481	559.1	7 520.4	347.2	677.9	3 743.2	18 762.0	10 503.9	28 897.8	938.9	5 810.6
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	2 878	4.5	56.7	3.6	5.8	28.8	121.3	78.3	213.8	6.7	45.3
5 TO 9 EMPLOYEES E6	1 071	7.1	89.0	4.6	8.8	45.3	198.3	121.2	318.0	9.3	61.9
10 TO 19 EMPLOYEES E4	992	13.7	166.6	8.8	16.7	85.0	362.7	231.0	589.7	18.3	112.5
20 TO 49 EMPLOYEES E1	1 070	33.6	398.8	22.3	43.1	207.1	909.7	577.0	1 473.4	44.1	274.3
50 TO 99 EMPLOYEES	560	39.6	464.7	25.8	50.1	238.6	1 076.0	675.7	1 718.9	52.7	370.6
100 TO 249 EMPLOYEES	462	71.4	824.0	46.3	89.6	432.4	1 983.6	1 325.7	3 258.5	89.1	741.5
250 TO 499 EMPLOYEES	237	84.5	992.7	55.8	110.8	537.5	2 346.3	1 425.0	3 694.5	119.8	886.0
500 TO 999 EMPLOYEES	129	89.0	1 114.0	57.7	113.1	592.0	2 674.6	1 527.9	4 149.3	127.9	956.1
1,000 TO 2,499 EMPLOYEES	82	90.4	1 284.5	56.0	109.7	655.6	2 858.6	1 644.1	4 427.5	133.6	1 019.2
2,500 OR MORE EMPLOYEES.	20	125.3	2 129.5	66.4	130.3	920.9	6 230.8	2 898.1	9 054.2	337.3	1 343.2
ADMIN. RECORDS ESTABS.[2] E9	3 340	13.8	173.6	9.3	17.1	85.8	393.6	221.3	615.0	18.1	132.4

See footnotes at end of table.

Table 4. **Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977**—Con.

Item	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
39 MISC. MANUFACTUR'G INDUSTRIES											
ESTABLISHMENTS, TOTAL[1]	17 259	440.7	4 406.4	338.7	626.7	2 745.3	10 291.0	9 061.4	19 150.7	473.6	3 614.2
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	8 717	13.1	134.6	12.3	18.9	82.5	294.9	306.0	618.1	11.3	107.0
5 TO 9 EMPLOYEES E3	2 424	16.2	166.2	12.3	22.7	100.9	350.6	368.0	718.1	14.1	119.5
10 TO 19 EMPLOYEES E2	2 323	31.6	310.3	25.4	42.1	185.8	649.8	637.8	1 272.0	24.4	210.9
20 TO 49 EMPLOYEES E1	2 026	62.8	606.5	48.2	87.1	372.4	1 289.6	1 218.6	2 477.7	55.9	400.5
50 TO 99 EMPLOYEES	859	59.9	559.5	47.0	88.1	356.0	1 230.8	1 157.0	2 366.9	47.9	402.6
100 TO 249 EMPLOYEES	602	(162.8)	(1 556.4)	(126.9)	(236.9)	(994.2)	(3 698.5)	(3 308.9)	(6 932.3)	(174.8)	(1 437.4)
250 TO 499 EMPLOYEES	206	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 TO 999 EMPLOYEES	74	49.5	537.6	37.3	72.6	348.7	1 319.3	1 068.9	2 349.4	53.8	534.4
1,000 TO 2,499 EMPLOYEES	26	(44.7)	(535.4)	(31.2)	(58.3)	(305.0)	(1 457.6)	(996.3)	(2 416.3)	(91.5)	(401.9)
2,500 OR MORE EMPLOYEES.	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
ADMIN. RECORDS ESTABS.[2]. E9	8 061	18.9	186.3	16.5	27.3	115.4	409.9	363.3	773.2	15.0	143.8

Note: Data for administrative offices and auxiliary operations are excluded from this table.

(D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1--10 to 19 percent; E2--20 to 29 percent; E3--30 to 39 percent; E4--40 to 49 percent; E5--50 to 59 percent; E5--50 to 59 percent; E6--60 to 69 percent; E7--70 to 79 percent; E8--80 to 89 percent; E9--90 to 99 percent; E0--100 percent.

[2]Data are also included in respective size classes shown.

Table 5. **Selected Statistics for Administrative Offices and Auxiliaries by Major Industry Group of Establishments Serviced: 1977**

1977 code	Major industry group and central administrative offices and auxiliaries	Establishments[1] (number)	Employees (1,000)	Total payroll[2] (million dollars)
	Manufacturing, total[1]	9,171	1,074.2	21,981.2
	Central administrative offices	7,309	694.4	14,776.4
	Research, development, and testing	1,838	202.3	4,380.9
	Warehousing	1,647	36.6	438.7
	Electronic data processing	1,739	51.2	908.8
	Other activities	3,029	89.6	1,476.4
20	Food and kindred products	1,341	102.1	1,929.1
	Central administrative offices	1,061	76.8	1,532.2
	Research, development, and testing	215	8.0	134.2
	Warehousing	270	3.9	48.6
	Electronic data processing	261	5.7	115.3
	Other activities	422	7.7	98.8
21	Tobacco manufactures	48	8.0	146.9
	Central administrative offices	36	5.5	107.4
	Research, development, and testing	9	.4	5.4
	Warehousing	14	.3	1.8
	Electronic data processing	11	.5	6.0
	Other activities	9	1.3	26.3
22	Textile mill products	375	33.2	553.0
	Central administrative offices	309	22.2	389.2
	Research, development, and testing	68	2.5	39.6
	Warehousing	82	2.3	24.5
	Electronic data processing	75	1.8	25.6
	Other activities	121	4.4	74.1
23	Apparel and other textile products	424	27.5	403.6
	Central administrative offices	353	18.6	296.9
	Research, development, and testing	38	.8	13.1
	Warehousing	113	4.3	39.3
	Electronic data processing	76	1.4	14.8
	Other activities	119	2.4	39.5
24	Lumber and wood products	320	14.5	270.2
	Central administrative offices	265	10.6	204.6
	Research, development, and testing	34	1.0	20.0
	Warehousing	56	.3	3.3
	Electronic data processing	57	.8	12.7
	Other activities	115	1.7	29.6
25	Furniture and fixtures	124	9.0	140.1
	Central administrative offices	110	6.8	107.1
	Research, development, and testing	16	.4	7.1
	Warehousing	31	.7	7.1
	Electronic data processing	31	.5	5.9
	Other activities	32	.5	12.9
26	Paper and allied products	251	37.6	902.4
	Central administrative offices	219	31.7	802.0
	Research, development, and testing	65	3.0	57.9
	Warehousing	15	.1	1.3
	Electronic data processing	61	1.6	20.6
	Other activities	59	1.2	20.6
27	Printing and publishing	644	38.9	621.4
	Central administrative offices	490	23.5	405.9
	Research, development, and testing	26	1.0	18.2
	Warehousing	66	4.1	38.5
	Electronic data processing	57	1.8	23.5
	Other activities	343	8.5	135.3
28	Chemicals and allied products	1,170	181.4	3,798.9
	Central administrative offices	857	114.1	2,470.3
	Research, development, and testing	360	46.3	953.3
	Warehousing	242	2.5	30.6
	Electronic data processing	212	7.1	120.6
	Other activities	279	11.4	224.1
29	Petroleum and coal products	287	65.3	1,562.0
	Central administrative offices	233	47.0	1,150.3
	Research, development, and testing	57	12.1	301.9
	Warehousing	30	.3	4.5
	Electronic data processing	47	4.1	68.7
	Other activities	82	1.8	36.6
30	Rubber and miscellaneous plastics products	215	25.2	458.3
	Central administrative offices	180	19.1	343.2
	Research, development, and testing	52	2.8	72.2
	Warehousing	54	.9	10.5
	Electronic data processing	44	1.0	12.2
	Other activities	69	1.4	20.2
31	Leather and leather products	103	10.8	132.3
	Central administrative offices	87	6.9	89.5
	Research, development, and testing	7	(Z)	.5
	Warehousing	40	3.1	28.9
	Electronic data processing	26	.4	5.4
	Other activities	57	.4	8.0
32	Stone, clay, and glass products	600	41.1	797.2
	Central administrative offices	511	29.9	581.0
	Research, development, and testing	107	5.0	89.0
	Warehousing	75	.4	4.7
	Electronic data processing	132	2.0	24.3
	Other activities	333	3.8	98.2
33	Primary metal industries	484	46.8	1,031.0
	Central administrative offices	346	35.1	806.9
	Research, development, and testing	95	7.3	140.0
	Warehousing	60	.5	5.0
	Electronic data processing	82	2.0	50.4
	Other activities	172	1.9	28.7
34	Fabricated metal products	549	50.1	986.5
	Central administrative offices	477	36.7	744.3
	Research, development, and testing	110	6.7	120.6
	Warehousing	73	.9	10.9
	Electronic data processing	113	2.3	42.4
	Other activities	168	3.6	68.3
35	Machinery, except electrical	754	93.1	1,884.8
	Central administrative offices	592	61.4	1,330.0
	Research, development, and testing	178	15.2	248.5
	Warehousing	146	3.7	57.4
	Electronic data processing	140	4.9	93.3
	Other activities	300	7.9	155.6
36	Electric and electronic equipment	694	140.0	2,840.9
	Central administrative offices	553	69.8	1,535.1
	Research, development, and testing	185	37.1	775.8
	Warehousing	153	4.9	68.5
	Electronic data processing	153	8.0	158.2
	Other activities	168	20.2	303.3
37	Transportation equipment	403	105.5	2,640.9
	Central administrative offices	307	50.5	1,312.5
	Research, development, and testing	108	42.8	1,159.1
	Warehousing	51	2.2	38.1
	Electronic data processing	80	3.0	65.7
	Other activities	88	7.0	65.5
38	Instruments and related products	228	32.8	691.6
	Central administrative offices	195	19.7	420.7
	Research, development, and testing	78	9.2	208.0
	Warehousing	38	.6	7.8
	Electronic data processing	44	1.7	33.7
	Other activities	43	1.5	21.4
39	Miscellaneous manufacturing industries	157	11.2	190.1
	Central administrative offices	128	8.4	147.3
	Research, development, and testing	30	.7	16.5
	Warehousing	38	.6	7.4
	Electronic data processing	37	.7	9.5
	Other activities	50	.8	9.4

(Z) Less than 50 employees.

[1]Detailed establishment data exceed totals since some establishments participate in more than one activity.

[2]Total payroll data for each industry group are actual. Detail data are estimates based on reported employment and average annual salaries determined from data collected in the 1977 Enterprise Statistics series.

Table 6. Employment Statistics for Operating Manufacturing Establishments and Administrative Offices and Auxiliaries by Major Industry Group: 1977 and Prior Census Years

1977 code	Major industry group and year	All establishments		Operating manufacturing establishments		Administrative offices and auxiliaries	
		Employees (1,000)	Payroll (million dollars)	Employees (1,000)	Payroll (million dollars)	Employees (1,000)	Payroll (million dollars)
	All industries....1977..	19,590.1	264,013.1	18,515.9	242,031.9	1,074.2	21,981.2
	1972..	19,028.7	174,205.5	18,034.4	160,433.2	994.3	13,772.3
	1967..	19,322.9	132,208.5	18,492.3	123,480.6	830.9	8,727.9
	1963..	16,958.4	99,898.8	16,231.9	93,283.3	726.5	6,615.5
20	Food and kindred products....1977..	1,622.1	20,472.7	1,520.0	18,543.6	102.1	1,929.1
	1972..	1,663.0	14,098.0	1,569.3	12,920.2	93.7	1,177.8
	1967..	1,725.9	10,841.5	1,649.6	10,076.8	76.3	764.7
	1963..	1,714.6	9,233.9	1,643.1	8,637.2	71.5	596.8
21	Tobacco manufactures....1977..	68.6	897.6	60.6	750.7	8.0	146.9
	1972..	74.3	595.7	66.3	502.1	8.0	93.6
	1967..	83.1	451.2	75.1	376.8	8.0	74.4
	1963..	83.8	381.3	77.3	330.5	6.5	50.8
22	Textile mill products....1977..	908.9	8,434.4	875.7	7,881.4	33.2	553.0
	1972..	983.8	6,413.0	952.6	6,051.0	31.2	362.0
	1967..	954.0	4,610.6	929.0	4,390.9	25.0	219.7
	1963..	883.1	3,538.0	863.2	3,385.0	19.9	152.9
23	Apparel and other textile products....1977..	1,361.8	10,062.2	1,334.3	9,658.6	27.5	403.6
	1972..	1,394.0	7,478.1	1,368.3	7,212.0	25.7	266.1
	1967..	1,372.9	5,722.2	1,356.7	5,582.2	16.2	140.0
	1963..	1,290.5	4,508.8	1,279.5	4,423.0	11.0	85.8
24	Lumber and wood products....1977..	706.9	7,694.9	692.4	7,424.7	14.5	270.2
	1972..	703.4	5,131.3	691.0	4,985.6	12.4	145.7
	1967..	561.7	2,872.6	554.0	2,798.9	7.7	73.7
	1963..	568.7	2,385.4	563.1	2,338.7	5.6	46.7
25	Furniture and fixtures....1977..	472.8	4,588.6	463.8	4,448.5	9.0	140.1
	1972..	468.5	3,286.3	462.0	3,205.4	6.5	80.9
	1967..	430.0	2,305.1	425.3	2,258.3	4.7	46.8
	1963..	381.2	1,767.1	376.5	1,726.7	4.7	40.4
26	Paper and allied products....1977..	666.3	9,845.3	628.7	8,942.9	37.6	902.4
	1972..	667.8	6,465.5	633.4	5,992.1	34.4	473.4
	1967..	670.7	4,786.7	638.9	4,436.2	31.8	350.5
	1963..	613.8	3,746.4	588.0	3,508.2	25.8	238.2
27	Printing and publishing....1977..	1,131.1	14,645.9	1,092.2	14,024.5	38.9	621.4
	1972..	1,085.5	10,162.1	1,056.5	9,831.2	29.0	330.9
	1967..	1,052.1	7,323.5	1,031.0	7,151.5	21.1	172.0
	1963..	925.1	5,611.5	913.2	5,514.8	11.8	96.7
28	Chemicals and allied products....1977..	1,061.6	17,630.7	880.2	13,831.8	181.4	3,798.9
	1972..	995.0	10,908.2	836.5	8,730.5	158.5	2,177.7
	1967..	982.7	7,932.1	841.4	6,443.0	141.3	1,489.1
	1963..	853.1	6,013.6	737.4	4,969.8	115.7	1,043.8
29	Petroleum and coal products....1977..	212.1	4,258.2	146.8	2,696.2	65.3	1,562.0
	1972..	209.5	2,633.7	139.5	1,637.5	70.0	996.2
	1967..	210.7	1,960.5	141.6	1,216.1	69.1	744.4
	1963..	219.9	1,762.9	153.5	1,133.8	66.4	629.1
30	Rubber and miscellaneous plastics products...1977..	746.5	8,994.3	721.3	8,536.0	25.2	458.3
	1972..	635.1	5,381.9	617.7	5,165.2	17.4	216.7
	1967..	531.0	3,421.8	516.7	3,286.5	14.3	135.3
	1963..	426.7	2,470.8	415.0	2,364.0	11.8	106.7
31	Leather and leather products....1977..	253.3	1,992.0	242.5	1,859.7	10.8	132.3
	1972..	285.5	1,706.2	273.4	1,589.3	12.1	116.9
	1967..	336.6	1,518.2	328.7	1,458.8	7.9	59.4
	1963..	335.0	1,278.0	327.5	1,227.8	7.6	50.2
32	Stone, clay, and glass products....1977..	654.8	8,740.3	613.7	7,943.1	41.1	797.2
	1972..	660.7	6,035.1	623.2	5,546.9	37.5	488.2
	1967..	620.6	4,133.8	589.9	3,825.5	30.7	308.3
	1963..	602.8	3,462.5	573.9	3,212.5	28.9	250.0
33	Primary metal products....1977..	1,160.4	19,783.5	1,113.6	18,752.5	46.8	1,031.0
	1972..	1,185.3	12,784.8	1,142.8	12,166.5	42.5	618.3
	1967..	1,329.1	10,395.7	1,281.0	9,850.9	48.1	544.8
	1963..	1,167.0	8,149.0	1,126.5	7,734.1	40.4	414.8
34	Fabricated metal products....1977..	1,607.4	22,045.4	1,557.3	21,058.9	50.1	986.5
	1972..	1,533.6	14,346.0	1,493.3	13,802.6	40.3	525.4
	1967..	1,375.1	9,670.0	1,341.8	9,319.5	33.3	350.5
	1963..	1,110.6	6,644.0	1,082.1	6,387.5	28.5	256.5

See footnotes at end of table.

Table 6. **Employment Statistics for Operating Manufacturing Establishments and Administrative Offices and Auxiliaries by Major Industry Group: 1977 and Prior Census Years**—Con.

1977 code	Major industry group and year	All establishments		Operating manufacturing establishments		Administrative offices and auxiliaries	
		Employees (1,000)	Payroll (million dollars)	Employees (1,000)	Payroll (million dollars)	Employees (1,000)	Payroll (million dollars)
35	Machinery, except electrical.....1977..	2,176.4	32,442.3	2,083.3	30,557.5	93.1	1,884.8
	1972..	1,930.0	20,047.9	1,827.7	18,523.3	102.3	1,524.6
	1967..	1,929.4	14,930.2	1,864.5	14,226.3	64.9	703.9
	1963..	1,520.6	10,146.6	1,459.4	9,571.0	61.2	575.6
36	Electric and electronic equipment.....1977..	1,863.1	25,385.1	1,723.1	22,544.2	140.0	2,840.9
	1972..	1,800.1	17,189.4	1,661.3	15,189.0	138.8	2,000.4
	1967..	1,980.6	14,106.5	1,874.9	12,968.0	105.7	1,138.5
	1963..	1,612.2	10,207.1	1,511.8	9,284.3	100.4	922.5
37	Transportation equipment.....1977..	1,873.7	33,291.4	1,768.2	30,650.5	105.5	2,640.9
	1972..	1,815.2	21,526.6	1,719.0	19,880.0	96.2	1,646.6
	1967..	1,935.5	16,342.4	1,834.1	15,173.7	101.4	1,168.7
	1963..	1,689.7	12,735.6	1,601.2	11,858.2	88.6	877.4
38	Instruments and related products.....1977..	591.9	8,212.0	559.1	7,520.4	32.8	691.6
	1972..	480.8	4,677.9	453.2	4,286.2	27.6	391.7
	1967..	409.6	2,980.8	394.3	2,821.6	15.3	159.2
	1963..	316.4	2,010.4	305.5	1,912.5	11.0	98.0
39, 19	Miscellaneous manufacturing industries and ordnance and accessories..... 1977[1].	451.9	4,596.5	440.7	4,406.4	11.2	190.1
	1972[1].	456.0	3,316.3	445.6	3,179.8	10.4	136.5
	1967..	831.6	5,903.5	823.5	5,819.4	8.1	84.1
	1963..	645.8	3,851.3	639.3	3,794.5	9.2	82.3

[1]Excludes ordnance and accessories. In the 1972 SIC revision, major group 19 was eliminated as a separate major industry group and its industries were reclassified to major groups 34, 36, 37, and 38.

Table 7. **Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977**

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
	All operating manufacturing establishments:											
	1977 Census	350,757	113,843	18,515.9	242,031.9	13,691.0	26,686.6	157,163.6	585,165.6	782,417.7	1,358,526.4	47,459.0
	1976 ASM	(NA)	(NA)	17,682.7	212,997.8	13,052.0	25,354.2	137,565.4	511,471.1	681,194.1	1,185,695.3	40,669.4
	1975 ASM	(NA)	(NA)	17,173.8	190,504.1	12,569.1	24,069.4	121,429.2	442,485.1	597,327.2	1,039,377.4	37,262.0
	1974 ASM	(NA)	(NA)	18,712.8	190,574.3	13,970.9	27,239.3	124,983.2	452,477.6	581,710.8	1,017,846.9	35,698.7
	1973 ASM	(NA)	(NA)	18,869.7	178,316.5	14,232.8	28,096.9	118,332.6	405,583.6	478,169.6	875,433.2	26,972.7
	1972 Census	312,671	109,950	18,034.4	160,433.2	13,527.9	26,699.2	105,501.8	353,994.0	407,402.1	756,534.3	24,077.7
	1971 ASM	(NA)	(NA)	17,426.3	144,246.3	12,874.9	25,265.9	93,231.7	314,138.4	356,016.9	670,970.5	20,940.7
	1970 ASM	(NA)	(NA)	18,289.5	141,886.4	13,528.0	26,669.3	91,609.0	300,227.6	336,551.6	634,322.1	22,164.3
	1969 ASM	(NA)	(NA)	19,155.6	142,645.1	14,357.8	28,599.8	93,459.6	304,440.7	341,724.5	642,635.8	22,291.4
	1968 ASM	(NA)	(NA)	18,681.0	132,568.4	14,041.2	28,156.8	87,480.4	285,058.9	320,698.0	603,220.1	20,613.1
	1967 Census	305,680	107,138	18,492.0	123,480.6	13,955.3	27,837.6	81,393.6	261,983.8	298,513.7	557,397.8	21,503.0
	1966 ASM	(NA)	(NA)	18,200.3	117,157.4	13,826.5	28,102.5	78,256.4	250,880.1	293,633.8	538,736.9	20,235.8
	1965 ASM	(NA)	(NA)	17,250.5	106,643.2	13,076.0	26,567.8	71,361.5	226,939.9	268,385.8	492,005.7	16,615.0
	1964 ASM	(NA)	(NA)	16,485.7	98,685.3	12,403.3	25,245.5	65,838.9	206,193.6	244,080.5	447,985.1	13,294.3
	1963 Census	306,617	99,352	16,231.9	93,283.3	12,232.0	24,509.4	62,093.6	192,082.9	(NA)	420,528.1	11,370.0
20	Food and kindred products:											
	1977 Census	26,656	11,038	1,520.0	18,543.6	1,072.0	2,112.4	11,730.7	56,062.2	136,963.7	192,911.6	4,214.9
	1976 ASM	(NA)	(NA)	1,525.2	15,855.7	1,054.8	2,067.1	9,836.8	48,094.7	123,788.0	172,157.6	3,433.5
	1975 ASM	(NA)	(NA)	1,527.3	15,891.2	1,056.8	2,071.4	9,861.2	48,142.0	123,953.5	172,510.4	3,399.4
	1974 ASM	(NA)	(NA)	1,553.0	14,787.9	1,074.8	2,125.8	9,196.3	44,947.5	118,330.6	162,104.2	3,006.1
	1973 ASM	(NA)	(NA)	1,559.9	13,670.3	1,080.5	2,157.8	8,470.5	39,692.7	97,433.6	135,582.5	2,413.8
	1972 Census	28,184	12,326	1,569.4	12,921.8	1,085.4	2,166.9	8,007.4	35,616.6	79,800.0	115,060.3	2,355.1
	1971 ASM	(NA)	(NA)	1,574.1	12,179.9	1,072.7	2,145.4	7,437.5	34,109.8	69,777.5	103,630.9	2,245.0
	1970 ASM	(NA)	(NA)	1,619.0	11,698.1	1,104.7	2,216.2	7,095.5	32,289.0	66,455.8	98,533.0	2,143.8
	1969 ASM	(NA)	(NA)	1,652.5	11,135.3	1,131.7	2,265.0	6,782.1	29,997.0	63,608.4	93,379.9	1,916.6
	1968 ASM	(NA)	(NA)	1,632.4	10,496.6	1,114.3	2,233.5	6,389.8	28,201.7	59,307.0	87,327.4	1,739.7
	1967 Census	32,518	13,514	1,649.6	10,076.8	1,121.7	2,259.4	6,062.6	26,620.9	57,540.6	83,975.2	1,730.1
	1966 ASM	(NA)	(NA)	1,642.7	9,542.1	1,098.0	2,239.5	5,675.9	24,895.9	55,071.5	79,750.9	1,692.0
	1965 ASM	(NA)	(NA)	1,641.2	9,161.7	1,095.2	2,233.4	5,445.5	23,537.5	50,805.5	74,248.4	1,475.5
	1964 ASM	(NA)	(NA)	1,646.2	9,027.8	1,095.4	2,269.7	5,367.0	25,053.2	48,675.0	71,597.5	1,412.9
	1963 Census	37,521	14,113	1,643.1	8,637.2	1,098.1	2,228.0	5,159.4	21,825.5	46,784.4	68,466.5	1,249.2
21	Tobacco manufactures:											
	1977 Census	228	123	60.6	750.7	50.4	92.6	570.7	4,334.1	4,729.8	9,050.6	181.5
	1976 ASM	(NA)	(NA)	66.2	654.6	56.3	104.2	513.0	3,721.6	4,342.3	8,059.9	144.9
	1975 ASM	(NA)	(NA)	66.2	654.6	56.3	104.2	513.0	3,722.0	4,395.8	8,113.4	148.4
	1974 ASM	(NA)	(NA)	67.4	604.4	58.0	106.6	476.6	3,179.1	3,966.0	7,139.9	185.4
	1973 ASM	(NA)	(NA)	68.5	557.3	59.2	110.5	440.2	2,900.1	3,446.6	6,340.7	180.4
	1972 Census	272	154	66.3	502.1	57.4	106.8	400.9	2,637.2	3,281.1	5,920.2	133.2
	1971 ASM	(NA)	(NA)	67.1	470.5	58.5	109.2	376.3	2,559.9	2,973.0	5,527.9	94.4
	1970 ASM	(NA)	(NA)	71.4	447.8	62.7	118.5	361.5	2,489.4	2,859.2	5,349.9	55.9
	1969 ASM	(NA)	(NA)	72.2	411.3	63.2	117.3	328.5	2,221.0	2,766.4	4,992.2	60.6
	1968 ASM	(NA)	(NA)	73.9	396.1	65.2	120.6	323.0	2,140.7	2,800.0	4,937.2	50.4
	1967 Census	329	195	75.1	376.9	66.1	125.5	303.6	2,032.0	2,871.4	4,903.6	53.0
	1966 ASM	(NA)	(NA)	72.4	356.2	64.1	122.3	289.4	1,872.0	2,908.8	4,772.7	58.2
	1965 ASM	(NA)	(NA)	74.6	349.4	66.2	124.9	284.9	1,765.7	2,883.5	4,648.3	59.2
	1964 ASM	(NA)	(NA)	78.8	352.9	70.2	138.3	290.7	1,772.1	2,883.0	4,651.7	58.8
	1963 Census	394	231	77.3	330.5	68.6	132.0	271.5	1,680.6	2,836.5	4,520.0	53.8
22	Textile mill products:											
	1977 Census	7,202	4,131	875.7	7,881.4	764.6	1,523.1	6,202.8	16,104.5	24,753.2	40,550.5	1,223.5
	1976 ASM	(NA)	(NA)	835.0	6,396.9	724.6	1,381.5	4,913.7	12,044.3	18,801.4	31,063.6	996.7
	1975 ASM	(NA)	(NA)	838.4	6,418.2	727.7	1,386.8	4,931.6	12,109.9	18,917.0	31,273.7	1,002.0
	1974 ASM	(NA)	(NA)	932.6	6,683.7	813.0	1,588.8	5,194.5	13,199.0	20,051.6	32,892.2	1,169.9
	1973 ASM	(NA)	(NA)	980.2	6,604.9	862.6	1,750.5	5,237.1	13,016.8	18,011.0	31,072.7	1,092.0
	1972 Census	7,203	4,505	952.7	6,051.9	836.2	1,726.0	4,807.2	11,718.0	16,505.1	28,071.5	1,127.5
	1971 ASM	(NA)	(NA)	906.8	5,330.1	794.4	1,605.2	4,212.1	9,995.2	14,023.5	24,029.8	872.8
	1970 ASM	(NA)	(NA)	924.5	5,082.0	812.9	1,628.6	4,035.6	9,333.8	13,261.2	22,610.6	811.1
	1969 ASM	(NA)	(NA)	968.4	5,159.1	859.2	1,747.6	4,129.0	9,604.7	13,415.9	22,977.7	849.2
	1968 ASM	(NA)	(NA)	959.1	4,849.6	854.4	1,758.1	3,944.7	9,184.4	13,067.0	21,969.2	690.6
	1967 Census	7,080	4,453	929.0	4,390.9	828.2	1,689.7	3,556.5	8,153.2	11,741.4	19,815.2	733.1
	1966 ASM	(NA)	(NA)	927.3	4,243.5	828.0	1,728.2	3,445.9	8,028.4	11,723.7	19,599.9	887.3
	1965 ASM	(NA)	(NA)	893.6	3,911.5	797.9	1,670.8	3,189.2	7,469.4	10,973.6	18,292.5	618.1
	1964 ASM	(NA)	(NA)	875.5	3,646.6	781.7	1,626.4	2,962.9	6,671.8	10,370.9	16,999.0	503.5
	1963 Census	7,104	4,368	863.2	3,385.0	775.3	1,568.1	2,768.4	6,123.0	9,658.7	15,740.5	382.4
23	Apparel and other textile products:											
	1977 Census	26,505	11,932	1,334.3	9,658.6	1,156.6	2,037.6	7,252.8	19,671.3	20,865.5	40,245.1	456.7
	1976 ASM	(NA)	(NA)	1,214.3	7,699.8	1,058.8	1,890.6	5,776.5	14,749.0	16,338.8	31,430.2	380.7
	1975 ASM	(NA)	(NA)	1,212.5	7,688.7	1,056.7	1,885.0	5,762.2	13,381.2	15,959.7	31,083.9	416.2
	1974 ASM	(NA)	(NA)	1,317.3	7,642.1	1,147.2	2,040.5	5,752.6	14,925.8	15,774.2	30,551.0	390.5
	1973 ASM	(NA)	(NA)	1,400.2	7,706.6	1,227.7	2,191.4	5,841.2	14,618.2	15,721.7	30,083.8	387.3
	1972 Census	24,438	12,226	1,368.3	7,212.0	1,198.3	2,161.1	5,461.1	13,487.5	14,532.0	27,809.2	363.5
	1971 ASM	(NA)	(NA)	1,318.8	6,499.8	1,148.9	2,054.4	4,942.7	12,448.4	12,672.4	25,024.5	336.2
	1970 ASM	(NA)	(NA)	1,341.4	6,267.4	1,171.2	2,119.4	4,806.5	11,597.5	11,948.1	23,501.8	299.6
	1969 ASM	(NA)	(NA)	1,381.1	6,402.2	1,209.5	2,202.5	4,944.0	11,571.1	12,692.7	24,283.2	310.8
	1968 ASM	(NA)	(NA)	1,356.0	6,012.3	1,194.0	2,176.8	4,680.6	10,880.9	12,002.5	22,648.9	267.2
	1967 Census	26,393	12,705	1,356.7	5,582.2	1,200.4	2,178.6	4,340.6	10,064.4	11,322.0	21,326.9	208.3
	1966 ASM	(NA)	(NA)	1,359.8	5,207.1	1,202.2	2,213.1	4,037.8	9,180.5	10,943.1	19,971.0	205.8
	1965 ASM	(NA)	(NA)	1,335.2	4,955.2	1,182.7	2,179.3	3,877.5	8,683.6	10,475.8	18,953.2	167.9
	1964 ASM	(NA)	(NA)	1,302.8	4,684.4	1,147.3	2,016.8	3,639.6	8,163.2	9,819.4	17,901.1	122.8
	1963 Census	28,457	13,011	1,279.5	4,423.0	1,132.9	2,052.6	3,482.3	7,861.0	9,327.3	17,096.9	128.6

See footnotes at end of table.

Table 7. **Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977**—Con.

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
24	Lumber and wood products:											
	1977 Census	37,302	7,056	692.4	7,424.7	594.8	1,147.6	5,795.0	16,222.8	23,918.7	39,919.4	1,562.6
	1976 ASM	(NA)	(NA)	588.1	5,231.3	505.9	945.9	4,050.1	10,355.6	14,623.5	25,094.5	1,264.0
	1975 ASM	(NA)	(NA)	591.7	5,268.6	509.0	951.1	4,079.1	10,455.8	14,652.7	25,193.7	1,281.6
	1974 ASM	(NA)	(NA)	674.8	5,490.1	582.5	1,120.7	4,293.5	11,561.2	15,600.5	26,852.6	1,357.2
	1973 ASM	(NA)	(NA)	722.4	5,470.5	628.4	1,213.8	4,311.1	12,357.2	15,843.8	27,980.6	953.3
	1972 Census	33,948	6,867	691.0	4,983.4	601.1	1,167.5	3,932.9	10,309.4	13,592.8	23,816.0	930.9
	1971 ASM	(NA)	(NA)	530.1	3,461.8	465.2	909.3	2,781.9	6,760.9	8,173.4	14,930.8	716.3
	1970 ASM	(NA)	(NA)	541.8	3,240.5	474.5	925.1	2,591.4	5,869.0	7,214.6	13,044.3	534.9
	1969 ASM	(NA)	(NA)	566.2	3,245.9	502.0	986.0	2,629.8	6,330.6	7,760.6	14,003.9	589.7
	1968 ASM	(NA)	(NA)	551.6	3,019.2	491.1	972.8	2,471.1	5,915.5	7,024.4	12,870.1	483.7
	1967 Census	36,795	5,803	554.0	2,789.9	495.7	977.0	2,290.6	4,973.4	6,231.6	11,205.2	426.0
	1966 ASM	(NA)	(NA)	571.8	2,692.5	506.3	1,015.4	2,214.1	4,791.2	5,995.6	10,720.4	485.2
	1965 ASM	(NA)	(NA)	571.8	2,585.7	506.6	1,009.0	2,123.5	4,473.6	5,765.3	10,298.0	482.1
	1964 ASM	(NA)	(NA)	559.2	2,435.7	490.4	985.3	2,047.8	4,364.9	5,567.5	9,881.8	362.0
	1963 Census	36,150	5,765	563.1	2,338.7	497.4	978.7	1,943.3	4,020.6	5,187.0	9,200.0	394.7
25	Furniture and fixtures:											
	1977 Census	10,235	3,588	463.8	4,448.3	383.6	736.4	3,191.8	8,921.7	8,187.4	16,978.0	388.7
	1976 ASM	(NA)	(NA)	395.8	3,310.1	324.9	605.3	2,339.4	6,290.1	5,950.6	12,372.8	251.6
	1975 ASM	(NA)	(NA)	397.8	3,322.6	326.6	611.0	2,349.3	6,310.6	5,984.8	12,420.7	255.0
	1974 ASM	(NA)	(NA)	459.3	3,569.7	380.6	732.1	2,577.3	6,983.4	6,360.4	13,197.3	350.9
	1973 ASM	(NA)	(NA)	478.7	3,532.2	404.3	790.5	2,561.0	6,735.5	5,981.1	12,609.5	343.8
	1972 Census	9,232	3,646	461.6	3,202.1	383.8	755.6	2,321.3	6,089.5	5,327.8	11,308.6	306.2
	1971 ASM	(NA)	(NA)	435.5	2,820.9	360.1	710.5	2,034.0	5,226.9	4,559.4	9,753.5	196.2
	1970 ASM	(NA)	(NA)	436.9	2,691.2	361.4	715.0	1,937.6	4,875.9	4,216.5	9,074.8	231.0
	1969 ASM	(NA)	(NA)	455.5	2,693.0	381.3	761.2	1,968.0	5,030.6	4,278.3	9,215.6	189.5
	1968 ASM	(NA)	(NA)	433.4	2,452.7	364.3	733.3	1,792.8	4,561.6	3,945.2	8,457.7	177.7
	1967 Census	10,008	3,449	425.3	2,258.3	357.5	715.7	1,653.7	4,169.5	3,619.6	7,749.8	198.0
	1966 ASM	(NA)	(NA)	428.6	2,188.1	360.7	735.0	1,621.2	3,989.9	3,609.1	7,537.0	185.6
	1965 ASM	(NA)	(NA)	407.1	2,013.4	341.7	698.8	1,486.6	3,612.4	3,290.2	6,879.7	151.1
	1964 ASM	(NA)	(NA)	388.2	1,844.5	323.8	663.0	1,374.6	3,226.9	3,110.3	6,309.4	108.2
	1963 Census	10,478	3,313	376.5	1,726.7	314.8	639.7	1,290.0	3,068.3	2,836.2	5,884.1	110.2
26	Paper and allied products:											
	1977 Census	6,545	3,999	628.7	8,942.9	486.3	985.9	6,323.1	22,170.9	30,148.2	52,085.7	3,295.0
	1976 ASM	(NA)	(NA)	588.6	6,990.4	453.7	900.6	4,872.7	17,943.7	23,792.0	41,711.5	2,718.0
	1975 ASM	(NA)	(NA)	589.5	6,984.5	454.4	902.5	4,873.4	17,926.8	23,818.6	41,743.1	2,718.3
	1974 ASM	(NA)	(NA)	645.9	6,955.0	507.4	1,032.2	4,995.0	18,957.2	23,161.9	41,665.3	2,208.3
	1973 ASM	(NA)	(NA)	645.4	6,481.9	509.0	1,056.1	4,695.4	15,166.0	17,654.2	32,752.4	1,529.6
	1972 Census	6,038	3,956	633.4	5,992.1	498.8	1,040.5	4,320.2	13,064.1	15,240.5	28,261.9	1,335.3
	1971 ASM	(NA)	(NA)	631.9	5,536.8	494.7	1,024.7	3,950.6	11,682.1	13,840.0	25,458.1	1,197.4
	1970 ASM	(NA)	(NA)	659.0	5,374.1	519.9	1,075.8	3,849.9	11,590.3	13,288.7	24,800.5	1,397.4
	1969 ASM	(NA)	(NA)	669.9	5,200.0	530.9	1,128.0	3,757.3	11,426.4	13,091.3	24,426.5	1,420.7
	1968 ASM	(NA)	(NA)	642.5	4,749.5	510.2	1,086.2	3,436.0	10,465.5	11,902.6	22,307.8	1,238.3
	1967 Census	5,890	3,813	638.9	4,436.2	507.7	1,071.2	3,205.5	9,756.3	11,292.2	20,969.9	1,585.3
	1966 ASM	(NA)	(NA)	633.9	4,235.9	503.2	1,075.6	3,070.8	9,417.2	11,112.8	20,413.7	1,421.9
	1965 ASM	(NA)	(NA)	609.6	3,895.6	484.5	1,029.3	2,829.0	8,464.1	10,170.0	18,578.5	1,185.6
	1964 ASM	(NA)	(NA)	592.9	3,685.6	470.8	1,007.3	2,678.3	7,805.7	9,460.2	17,194.5	901.9
	1963 Census	5,713	3,552	588.0	3,508.2	467.8	988.6	2,551.1	7,395.7	9,001.4	16,357.1	708.5
27	Printing and publishing:											
	1977 Census	49,767	9,132	1,092.2	14,024.5	625.8	1,152.8	7,322.1	31,979.5	17,794.7	49,716.2	1,597.8
	1976 ASM	(NA)	(NA)	1,070.2	11,655.2	626.2	1,138.1	6,219.9	24,641.0	13,538.5	38,125.1	1,174.6
	1975 ASM	(NA)	(NA)	1,072.8	11,675.3	629.8	1,144.6	6,252.8	24,503.1	13,562.5	38,135.3	1,184.4
	1974 ASM	(NA)	(NA)	1,075.7	11,139.3	639.1	1,189.2	6,131.0	23,610.3	12,526.7	35,822.4	1,140.9
	1973 ASM	(NA)	(NA)	1,083.5	10,523.3	649.2	1,203.2	5,830.1	21,871.2	11,071.7	32,854.7	1,089.5
	1972 Census	42,102	8,618	1,056.1	9,826.9	637.4	1,180.7	5,459.3	20,197.1	10,043.3	30,132.4	1,047.2
	1971 ASM	(NA)	(NA)	1,049.1	8,975.9	626.3	1,192.0	5,010.1	18,086.4	8,861.4	26,887.3	941.9
	1970 ASM	(NA)	(NA)	1,077.2	8,682.2	652.9	1,265.1	4,903.3	17,232.4	8,557.1	25,756.5	872.8
	1969 ASM	(NA)	(NA)	1,090.7	8,337.7	666.5	1,261.6	4,701.8	16,793.4	8,540.9	25,332.7	853.3
	1968 ASM	(NA)	(NA)	1,040.0	7,627.0	635.9	1,204.1	4,279.7	15,328.7	7,907.1	23,190.4	756.7
	1967 Census	37,989	8,035	1,031.0	7,151.5	631.6	1,196.1	4,011.3	14,355.1	7,518.5	21,738.4	788.1
	1966 ASM	(NA)	(NA)	1,017.6	6,751.0	619.1	1,208.7	3,831.5	13,264.5	7,114.9	20,201.7	708.5
	1965 ASM	(NA)	(NA)	982.4	6,269.2	597.3	1,156.3	3,574.9	12,098.8	6,599.6	18,620.3	542.7
	1964 ASM	(NA)	(NA)	935.0	5,847.6	569.7	1,123.6	3,349.5	11,192.1	6,185.5	17,337.1	464.5
	1963 Census	38,090	7,215	913.2	5,514.8	559.8	1,083.2	3,191.0	10,476.4	5,777.3	16,165.7	463.9
28	Chemicals and allied products:											
	1977 Census	12,173	4,602	880.2	13,839.3	543.8	1,089.9	7,446.2	56,720.6	62,293.8	118,153.6	8,198.9
	1976 ASM	(NA)	(NA)	842.0	11,227.0	509.8	1,000.8	5,857.7	44,976.3	45,150.6	89,721.2	6,353.1
	1975 ASM	(NA)	(NA)	848.1	11,303.8	511.2	1,003.4	5,870.5	45,116.0	45,141.8	89,847.8	6,382.4
	1974 ASM	(NA)	(NA)	865.5	10,547.3	542.0	1,084.7	5,697.0	44,488.1	41,467.3	83,801.0	4,957.2
	1973 ASM	(NA)	(NA)	852.4	9,440.3	535.1	1,075.3	5,149.3	36,239.4	28,595.7	65,008.0	3,186.2
	1972 Census	11,425	4,431	836.5	8,730.5	525.0	1,053.7	4,753.9	32,413.9	25,085.5	57,349.6	2,728.4
	1971 ASM	(NA)	(NA)	848.9	8,259.9	528.6	1,060.5	4,451.2	29,431.5	22,489.8	51,873.1	2,937.7
	1970 ASM	(NA)	(NA)	881.0	8,003.8	555.7	1,120.6	4,327.0	27,929.6	21,781.8	49,355.2	3,110.7
	1969 ASM	(NA)	(NA)	882.6	7,602.5	565.6	1,150.9	4,181.1	27,318.9	21,281.1	48,269.8	2,843.4
	1968 ASM	(NA)	(NA)	856.3	6,938.5	550.8	1,116.0	3,845.4	25,810.4	19,984.0	45,622.4	2,788.7
	1967 Census	11,799	4,348	841.4	6,443.0	541.4	1,086.1	3,555.2	23,550.1	18,821.2	42,148.3	2,936.1
	1966 ASM	(NA)	(NA)	822.4	6,129.3	528.5	1,077.4	3,400.2	22,655.6	18,516.8	40,780.4	2,898.6
	1965 ASM	(NA)	(NA)	780.3	5,594.4	502.4	1,022.5	3,104.8	20,955.6	16,804.5	37,478.8	2,482.0
	1964 ASM	(NA)	(NA)	749.2	5,244.3	479.9	986.0	2,927.5	19,165.8	15,218.4	34,268.1	1,862.2
	1963 Census	11,996	3,985	737.4	4,969.8	474.1	963.4	2,779.9	17,586.1	14,255.1	31,772.7	1,545.7

See footnotes at end of table.

Table 7. **Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977**—Con.

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
29	Petroleum and coal products:											
	1977 Census	2,206	773	146.8	2,696.2	101.1	207.9	1,765.4	16,377.6	81,655.4	97,452.7	2,261.3
	1976 ASM	(NA)	(NA)	141.1	2,147.4	97.9	197.4	1,357.3	10,499.5	59,198.4	69,484.6	2,417.8
	1975 ASM	(NA)	(NA)	141.1	2,143.6	98.0	197.6	1,355.8	10,090.2	59,099.4	68,969.2	2,328.4
	1974 ASM	(NA)	(NA)	145.6	1,919.9	101.4	207.9	1,240.9	9,951.1	50,140.5	58,875.8	1,845.1
	1973 ASM	(NA)	(NA)	136.5	1,716.0	95.8	193.6	1,110.4	7,740.2	27,421.1	34,899.0	1,107.0
	1972 Census	2,016	720	139.5	1,637.5	97.9	200.5	1,064.0	5,793.1	22,762.5	28,694.7	1,154.2
	1971 ASM	(NA)	(NA)	141.3	1,564.1	97.1	197.6	993.5	5,616.8	21,460.7	26,935.2	1,304.0
	1970 ASM	(NA)	(NA)	143.8	1,487.2	99.6	204.9	941.6	5,477.9	19,493.5	24,882.9	1,217.6
	1969 ASM	(NA)	(NA)	141.9	1,368.7	98.1	196.7	857.1	5,703.3	18,720.5	24,392.9	1,071.6
	1968 ASM	(NA)	(NA)	141.0	1,284.3	98.4	201.3	825.1	5,567.1	17,664.3	23,190.0	1,064.9
	1967 Census	1,880	704	141.7	1,216.2	99.2	202.1	786.3	5,425.9	16,748.4	22,043.4	999.3
	1966 ASM	(NA)	(NA)	139.8	1,128.0	99.1	198.0	741.7	4,753.8	15,652.5	20,419.7	668.7
	1965 ASM	(NA)	(NA)	142.4	1,107.4	101.6	203.7	732.6	4,131.3	14,973.6	19,111.4	603.5
	1964 ASM	(NA)	(NA)	148.4	1,127.1	105.4	213.6	743.2	3,780.4	14,570.2	18,357.5	412.6
	1963 Census	1,839	689	153.5	1,133.9	109.4	216.7	745.1	3,713.2	14,291.5	17,994.7	413.7
30	Rubber and miscellaneous plastics products:											
	1977 Census	11,943	5,294	721.3	8,536.0	563.7	1,110.6	5,841.6	19,740.0	20,217.8	39,552.8	1,645.3
	1976 ASM	(NA)	(NA)	585.0	5,922.6	451.0	873.1	3,984.6	13,599.3	13,610.2	27,191.2	1,139.9
	1975 ASM	(NA)	(NA)	587.4	5,944.9	453.0	877.8	4,002.1	13,674.2	13,688.0	27,316.5	1,152.5
	1974 ASM	(NA)	(NA)	661.3	6,203.1	522.6	1,024.9	4,303.3	14,826.2	13,628.2	27,902.2	1,457.0
	1973 ASM	(NA)	(NA)	672.0	5,812.3	532.0	1,041.7	4,080.1	13,439.6	11,058.3	24,383.6	1,305.0
	1972 Census	9,237	4,188	617.7	5,165.2	486.8	968.3	3,605.0	11,653.3	9,466.1	20,923.7	1,059.6
	1971 ASM	(NA)	(NA)	543.5	4,285.7	422.2	844.4	2,968.4	9,521.2	7,541.6	17,043.7	723.8
	1970 ASM	(NA)	(NA)	545.8	3,998.6	426.9	849.2	2,759.1	8,502.7	7,038.3	15,471.4	828.4
	1969 ASM	(NA)	(NA)	567.4	4,026.0	450.8	915.5	2,846.4	8,431.1	7,324.6	15,637.4	856.6
	1968 ASM	(NA)	(NA)	541.9	3,705.4	430.1	875.4	2,624.1	7,730.4	6,799.1	14,377.4	760.0
	1967 Census	6,456	3,122	516.7	3,286.5	410.1	815.5	2,312.5	6,799.5	5,974.4	12,758.6	677.2
	1966 ASM	(NA)	(NA)	491.8	3,072.0	390.6	799.9	2,174.3	6,277.1	5,825.5	11,976.0	599.9
	1965 ASM	(NA)	(NA)	465.2	2,813.9	368.8	747.1	1,985.3	5,681.4	5,276.5	10,863.2	516.0
	1964 ASM	(NA)	(NA)	430.1	2,546.9	340.7	695.9	1,798.5	4,990.9	4,789.3	9,723.2	399.4
	1963 Census	5,728	2,449	415.0	2,364.0	328.8	658.5	1,672.4	4,654.0	4,480.1	9,116.2	343.5
31	Leather and leather products:											
	1977 Census	3,075	1,486	242.5	1,859.7	211.5	381.9	1,408.1	3,718.8	3,932.6	7,607.4	96.2
	1976 ASM	(NA)	(NA)	239.7	1,651.4	208.9	377.5	1,249.9	3,187.2	3,111.2	6,323.0	77.5
	1975 ASM	(NA)	(NA)	240.0	1,652.4	209.3	377.9	1,251.5	3,187.2	3,117.1	6,333.4	78.4
	1974 ASM	(NA)	(NA)	255.8	1,604.1	223.1	401.8	1,228.8	3,120.2	3,099.2	6,176.5	76.1
	1973 ASM	(NA)	(NA)	267.6	1,595.4	234.7	434.4	1,230.2	2,962.0	3,075.9	6,022.5	80.9
	1972 Census	3,201	1,657	273.4	1,589.3	240.4	449.1	1,230.8	2,917.2	2,895.4	5,769.5	74.5
	1971 ASM	(NA)	(NA)	273.8	1,500.6	240.4	441.8	1,155.0	2,760.8	2,437.4	5,218.4	69.2
	1970 ASM	(NA)	(NA)	295.8	1,526.0	261.0	479.6	1,183.7	2,819.7	2,468.6	5,288.4	62.8
	1969 ASM	(NA)	(NA)	326.7	1,592.9	290.7	537.9	1,252.3	2,898.0	2,594.1	5,463.9	64.2
	1968 ASM	(NA)	(NA)	334.1	1,582.1	298.2	561.4	1,252.7	2,911.9	2,604.1	5,485.5	78.8
	1967 Census	3,685	1,967	328.7	1,458.8	293.3	549.2	1,147.0	2,626.5	2,540.9	5,169.0	62.1
	1966 ASM	(NA)	(NA)	341.1	1,426.0	303.1	574.4	1,125.3	2,480.8	2,590.3	5,032.6	61.5
	1965 ASM	(NA)	(NA)	335.7	1,348.3	299.2	562.7	1,065.3	2,322.0	2,342.0	4,640.5	46.5
	1964 ASM	(NA)	(NA)	326.7	1,285.9	291.9	553.4	1,022.1	2,264.7	2,173.3	4,414.4	37.7
	1963 Census	4,047	2,073	327.5	1,227.8	292.3	543.1	982.1	2,078.6	2,127.8	4,209.6	34.6
32	Stone, clay, and glass products:											
	1977 Census	17,744	5,201	613.7	7,943.1	484.4	960.7	5,766.6	19,129.6	16,444.8	35,476.6	1,881.4
	1976 ASM	(NA)	(NA)	588.8	6,389.7	461.2	901.0	4,596.2	14,848.7	12,301.0	27,073.9	1,581.2
	1975 ASM	(NA)	(NA)	591.6	6,402.6	464.0	905.9	4,601.1	15,337.6	12,339.2	27,595.1	1,601.6
	1974 ASM	(NA)	(NA)	637.0	6,414.2	507.9	1,012.5	4,719.8	14,566.0	12,041.2	26,260.1	1,583.6
	1973 ASM	(NA)	(NA)	643.8	6,079.4	510.8	1,027.7	4,456.7	13,801.0	10,179.8	23,861.7	1,391.4
	1972 Census	16,015	5,301	623.2	5,546.9	492.6	998.1	4,037.3	12,586.5	9,062.6	21,537.5	1,195.5
	1971 ASM	(NA)	(NA)	582.6	4,801.6	462.4	927.8	3,503.4	10,757.8	7,816.6	18,534.7	927.8
	1970 ASM	(NA)	(NA)	591.3	4,530.5	470.2	950.6	3,320.7	9,785.8	7,048.6	16,761.1	919.8
	1969 ASM	(NA)	(NA)	608.3	4,440.4	484.0	987.4	3,257.0	9,851.1	7,054.1	16,815.8	907.9
	1968 ASM	(NA)	(NA)	590.1	4,064.6	468.9	950.7	2,971.4	9,211.7	6,609.3	15,783.3	734.0
	1967 Census	15,580	4,911	589.9	3,825.5	469.3	948.4	2,784.1	8,333.4	6,146.0	14,449.4	820.9
	1966 ASM	(NA)	(NA)	616.0	3,837.5	488.0	998.9	2,811.7	8,494.6	6,262.5	14,629.4	939.5
	1965 ASM	(NA)	(NA)	604.6	3,602.1	479.9	981.1	2,640.2	7,995.9	5,989.3	13,938.7	773.2
	1964 ASM	(NA)	(NA)	580.8	3,369.0	458.5	949.2	2,446.9	7,492.7	5,541.1	12,950.2	627.2
	1963 Census	15,838	4,655	573.9	3,212.5	455.8	928.9	2,350.2	7,044.0	5,287.8	12,289.1	607.6
33	Primary metal products:											
	1977 Census	7,375	3,980	1,113.6	18,745.0	885.3	1,744.0	14,065.2	37,568.2	66,171.3	103,179.4	4,496.8
	1976 ASM	(NA)	(NA)	1,088.9	14,993.7	856.0	1,637.5	11,029.8	30,366.8	51,949.8	80,817.0	4,164.5
	1975 ASM	(NA)	(NA)	1,090.6	15,015.0	856.3	1,638.5	11,047.1	30,554.4	52,155.2	81,315.3	4,187.4
	1974 ASM	(NA)	(NA)	1,247.8	15,900.2	1,001.0	1,995.0	12,102.4	37,297.3	58,720.5	95,618.0	3,751.8
	1973 ASM	(NA)	(NA)	1,221.7	14,147.9	995.5	2,027.7	10,873.1	28,614.1	44,007.1	72,727.2	2,334.2
	1972 Census	6,792	3,901	1,142.8	12,166.5	922.7	1,849.9	9,202.4	23,258.1	35,708.9	58,429.7	2,160.6
	1971 ASM	(NA)	(NA)	1,169.3	11,204.6	931.4	1,831.8	8,300.6	21,119.8	31,867.5	53,067.3	2,197.5
	1970 ASM	(NA)	(NA)	1,261.2	11,251.9	1,013.5	2,009.0	8,410.2	21,444.6	32,629.8	53,510.7	2,736.7
	1969 ASM	(NA)	(NA)	1,310.5	11,447.4	1,064.3	2,171.5	8,687.7	22,729.0	32,956.6	55,257.9	2,815.9
	1968 ASM	(NA)	(NA)	1,274.7	10,479.2	1,033.4	2,090.4	7,922.2	20,973.7	29,346.3	50,317.0	3,102.3
	1967 Census	6,837	4,082	1,281.0	9,850.9	1,041.5	2,088.7	7,457.3	19,978.2	27,219.9	46,730.9	3,134.1
	1966 ASM	(NA)	(NA)	1,296.2	9,911.0	1,065.5	2,191.3	7,648.6	20,898.8	29,130.0	49,528.4	2,765.1
	1965 ASM	(NA)	(NA)	1,250.3	9,237.6	1,025.6	2,105.4	7,176.4	18,924.4	26,509.6	45,302.8	2,257.0
	1964 ASM	(NA)	(NA)	1,180.5	8,487.9	973.4	1,994.4	6,577.6	16,692.4	23,526.9	40,032.4	1,886.0
	1963 Census	6,513	3,583	1,126.5	7,734.1	922.2	1,839.0	5,933.6	15,261.1	20,474.2	35,621.5	1,446.3

See footnotes at end of table.

Table 7. **Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977**—Con.

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
34	Fabricated metal products:											
	1977 Census	33,712	12,739	1,555.7	21,035.9	1,191.6	2,373.8	14,428.8	45,511.5	45,384.8	90,023.5	2,606.1
	1976 ASM	(NA)	(NA)	1,416.9	16,334.3	1,070.2	2,085.4	11,029.5	34,203.0	34,465.7	68,738.7	2,074.2
	1975 ASM	(NA)	(NA)	1,419.9	16,359.0	1,072.7	2,091.2	11,048.4	34,095.8	34,527.8	68,823.6	2,077.7
	1974 ASM	(NA)	(NA)	1,574.7	16,570.0	1,207.7	2,415.0	11,469.2	35,221.0	33,858.1	67,569.9	1,981.2
	1973 ASM	(NA)	(NA)	1,566.7	15,374.0	1,212.5	2,439.9	10,742.3	30,573.4	28,520.7	58,556.3	1,734.7
	1972 Census	29,525	11,676	1,493.3	13,820.6	1,148.0	2,302.7	9,544.4	26,945.8	25,197.5	51,739.3	1,323.2
	1971 ASM	(NA)	(NA)	1,279.2	11,022.1	980.9	1,971.4	7,577.5	21,966.3	20,051.9	42,026.4	1,042.5
	1970 ASM	(NA)	(NA)	1,333.5	10,780.0	1,025.2	2,080.3	7,430.1	20,887.8	19,074.9	39,620.9	1,139.7
	1969 ASM	(NA)	(NA)	1,399.1	10,773.1	1,097.1	2,227.5	7,550.7	20,739.5	19,045.3	39,597.1	1,286.7
	1968 ASM	(NA)	(NA)	1,357.8	10,038.1	1,067.7	2,192.6	7,061.7	19,504.5	17,957.0	37,340.5	1,041.2
	1967 Census	27,418	10,741	1,341.8	9,319.5	1,056.9	2,160.9	6,541.6	18,042.6	16,704.9	34,577.8	1,118.4
	1966 ASM	(NA)	(NA)	1,252.3	8,244.9	984.1	2,038.2	5,762.4	15,791.9	15,306.2	30,904.6	952.5
	1965 ASM	(NA)	(NA)	1,173.3	7,413.6	914.5	1,901.4	5,181.5	14,171.3	13,687.3	27,536.1	805.7
	1964 ASM	(NA)	(NA)	1,115.9	6,852.9	869.5	1,794.8	4,802.7	12,692.9	12,375.5	24,895.6	726.8
	1963 Census	27,075	9,210	1,082.1	6,387.5	843.8	1,721.0	4,483.7	11,791.1	11,397.9	23,065.2	570.1
35	Machinery, except electrical:											
	1977 Census	48,200	12,446	2,083.3	30,557.5	1,413.8	2,803.0	18,298.4	67,222.5	56,531.6	122,187.7	4,402.4
	1976 ASM	(NA)	(NA)	1,966.6	24,555.1	1,340.7	2,644.6	14,778.3	51,044.4	44,581.0	95,752.5	3,354.7
	1975 ASM	(NA)	(NA)	1,979.2	24,702.0	1,349.8	2,661.1	14,853.8	51,471.0	44,821.2	96,400.3	3,369.4
	1974 ASM	(NA)	(NA)	2,126.1	24,713.4	1,496.7	3,024.8	15,431.1	52,494.9	43,548.6	92,487.2	3,312.2
	1973 ASM	(NA)	(NA)	1,993.8	21,598.0	1,400.2	2,842.7	13,493.7	44,559.0	35,566.1	78,092.7	2,344.0
	1972 Census	40,792	10,599	1,827.7	18,523.3	1,266.9	2,538.3	11,358.6	37,562.9	29,204.1	65,820.7	1,906.3
	1971 ASM	(NA)	(NA)	1,743.5	16,235.0	1,187.2	2,334.8	9,740.0	30,680.9	24,536.7	55,559.9	1,696.0
	1970 ASM	(NA)	(NA)	1,890.6	16,637.8	1,306.4	2,624.2	10,222.4	31,814.3	24,875.0	56,080.6	1,854.9
	1969 ASM	(NA)	(NA)	1,943.7	16,441.7	1,377.2	2,829.7	10,401.8	32,009.2	24,705.9	55,767.7	1,866.3
	1968 ASM	(NA)	(NA)	1,848.8	14,754.9	1,320.4	2,700.8	9,427.8	28,777.8	22,071.3	50,605.5	1,743.1
	1967 Census	37,892	10,629	1,864.5	14,226.3	1,349.0	2,785.0	9,236.1	27,836.4	21,231.6	48,477.2	1,868.1
	1966 ASM	(NA)	(NA)	1,803.7	13,469.8	1,309.9	2,795.8	8,843.0	27,034.9	20,769.7	46,621.9	1,658.3
	1965 ASM	(NA)	(NA)	1,652.8	11,741.8	1,195.9	2,515.1	7,659.6	22,762.0	17,306.4	39,241.1	1,228.4
	1964 ASM	(NA)	(NA)	1,538.6	10,606.9	1,108.7	2,327.3	6,982.3	20,302.4	15,304.5	35,060.1	939.4
	1963 Census	33,703	8,426	1,459.4	9,571.0	1,045.1	2,151.1	6,209.3	17,310.6	13,254.2	30,363.1	783.1
36	Electric and electronic equipment:											
	1977 Census	14,973	6,338	1,723.1	22,544.2	1,191.4	2,309.2	12,951.6	50,365.7	39,369.5	88,433.1	2,866.5
	1976 ASM	(NA)	(NA)	1,523.6	17,401.2	1,019.9	1,949.6	9,631.9	34,845.0	28,677.8	64,213.9	1,876.8
	1975 ASM	(NA)	(NA)	1,520.9	17,392.0	1,017.8	1,946.5	9,627.8	34,804.4	28,689.6	64,197.9	1,865.8
	1974 ASM	(NA)	(NA)	1,775.5	18,092.8	1,242.3	2,389.1	10,508.7	36,901.5	30,106.0	65,804.1	2,426.3
	1973 ASM	(NA)	(NA)	1,797.0	17,150.7	1,277.5	2,504.9	10,190.3	34,984.2	27,166.5	60,864.8	1,996.1
	1972 Census	12,274	5,736	1,662.2	15,200.1	1,160.8	2,275.0	8,822.6	30,583.6	23,315.6	53,433.0	1,418.8
	1971 ASM	(NA)	(NA)	1,659.0	14,436.7	1,119.4	2,182.7	8,040.0	27,874.2	20,923.0	49,168.1	1,398.6
	1970 ASM	(NA)	(NA)	1,831.6	14,827.2	1,237.4	2,417.4	8,320.6	27,773.5	21,003.7	48,420.8	1,519.7
	1969 ASM	(NA)	(NA)	1,917.8	14,829.7	1,324.0	2,618.5	8,445.7	28,210.9	21,115.9	48,913.7	1,640.7
	1968 ASM	(NA)	(NA)	1,882.7	13,807.8	1,304.1	2,596.5	7,986.0	26,425.0	20,321.6	46,470.4	1,477.6
	1967 Census	10,706	5,572	1,874.9	12,968.0	1,323.4	2,611.3	7,607.0	24,487.3	19,437.3	43,361.0	1,537.2
	1966 ASM	(NA)	(NA)	1,811.0	11,988.1	1,318.5	2,641.9	7,259.3	23,481.7	18,472.6	40,842.6	1,388.3
	1965 ASM	(NA)	(NA)	1,604.8	10,449.5	1,138.6	2,313.1	6,231.6	20,161.7	15,430.7	35,127.3	1,045.9
	1964 ASM	(NA)	(NA)	1,483.8	9,407.3	1,029.9	2,070.2	5,568.9	17,765.4	13,234.0	30,784.7	761.3
	1963 Census	9,948	4,722	1,511.8	9,284.3	1,049.4	2,090.5	5,405.8	17,010.7	12,942.6	29,840.2	701.9
37	Transportation equipment:											
	1977 Census	10,176	3,653	1,768.2	30,673.5	1,284.4	2,612.7	20,314.3	64,291.1	103,489.6	166,954.0	4,670.9
	1976 ASM	(NA)	(NA)	1,604.6	22,772.0	1,137.0	2,216.8	14,405.4	45,337.3	68,677.6	113,500.6	2,762.1
	1975 ASM	(NA)	(NA)	1,604.4	22,770.3	1,137.9	2,217.3	14,418.8	45,155.2	68,591.1	113,218.3	2,794.3
	1974 ASM	(NA)	(NA)	1,738.0	22,609.2	1,249.6	2,469.9	14,554.1	44,973.3	64,875.4	108,245.2	3,176.1
	1973 ASM	(NA)	(NA)	1,835.7	22,571.9	1,340.6	2,732.4	14,833.8	45,684.9	65,555.6	110,710.7	2,530.1
	1972 Census	8,802	3,618	1,719.0	19,880.0	1,246.2	2,527.4	12,848.6	39,799.4	55,767.8	94,704.9	2,660.2
	1971 ASM	(NA)	(NA)	1,620.8	16,697.8	1,186.0	2,370.8	11,047.9	34,845.0	51,251.9	86,920.4	1,258.2
	1970 ASM	(NA)	(NA)	1,688.6	16,072.6	1,200.8	2,393.3	10,230.0	29,990.2	42,293.2	72,589.5	1,611.6
	1969 ASM	(NA)	(NA)	1,919.7	17,650.7	1,398.1	2,823.0	11,454.6	34,053.2	48,012.3	81,786.0	1,942.6
	1968 ASM	(NA)	(NA)	1,887.6	16,811.2	1,376.5	2,893.3	11,135.4	32,866.2	46,997.1	79,494.3	1,599.0
	1967 Census	7,483	3,354	1,834.1	15,173.7	1,336.5	2,745.6	9,918.2	28,173.9	40,419.9	68,512.3	1,822.4
	1966 ASM	(NA)	(NA)	1,829.7	14,852.4	1,354.5	2,843.8	9,857.8	28,277.1	41,936.1	69,422.7	1,879.8
	1965 ASM	(NA)	(NA)	1,683.8	13,273.3	1,240.7	2,639.8	8,813.2	26,330.9	39,901.2	65,842.7	1,506.1
	1964 ASM	(NA)	(NA)	1,563.2	11,887.2	1,119.8	2,367.7	7,771.5	22,733.9	33,189.7	55,688.9	1,176.6
	1963 Census	7,180	2,852	1,551.2	11,406.0	1,108.2	2,355.7	7,388.9	21,854.0	31,790.0	53,581.0	981.0
38	Instruments and related products:											
	1977 Census	7,481	2,538	559.1	7,520.4	347.2	677.9	3,743.2	18,762.0	10,503.9	28,897.8	938.9
	1976 ASM	(NA)	(NA)	499.8	5,828.7	308.8	587.6	2,818.1	14,157.6	7,721.7	22,058.7	794.3
	1975 ASM	(NA)	(NA)	502.0	5,854.2	310.4	590.8	2,835.4	14,116.2	7,754.9	22,071.8	756.7
	1974 ASM	(NA)	(NA)	524.1	5,560.3	338.3	653.0	2,851.3	13,627.4	7,698.1	20,864.8	808.0
	1973 ASM	(NA)	(NA)	485.4	4,800.5	316.0	613.9	2,490.0	12,224.3	5,977.3	17,793.7	635.6
	1972 Census	5,987	2,070	454.1	4,296.5	291.9	569.6	2,237.1	10,583.7	5,071.2	15,565.7	480.4
	1971 ASM	(NA)	(NA)	381.7	3,345.7	244.9	465.1	1,732.9	8,385.9	3,956.8	12,275.8	392.7
	1970 ASM	(NA)	(NA)	404.6	3,357.5	261.5	502.1	1,746.3	7,905.4	3,943.6	11,782.5	435.5
	1969 ASM	(NA)	(NA)	413.1	3,271.8	271.0	535.2	1,757.2	7,676.0	4,119.9	11,686.3	388.3
	1968 ASM	(NA)	(NA)	400.0	3,001.5	265.5	524.7	1,625.0	7,174.1	3,780.7	10,886.9	397.2
	1967 Census	4,453	1,614	394.3	2,821.6	265.9	530.2	1,569.0	6,418.4	3,591.8	9,907.2	392.2
	1966 ASM	(NA)	(NA)	362.0	2,509.3	248.8	494.1	1,426.0	5,833.3	3,210.9	8,832.7	307.0
	1965 ASM	(NA)	(NA)	328.7	2,227.9	225.9	451.5	1,275.0	5,002.2	2,742.3	7,621.2	232.2
	1964 ASM	(NA)	(NA)	308.0	2,013.6	209.1	420.5	1,148.5	4,314.3	2,378.1	6,603.2	192.1
	1963 Census	3,949	1,343	305.5	1,912.5	208.4	416.6	1,100.7	3,992.1	2,171.1	6,117.8	191.9

See footnotes at end of table.

Table 7. **Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977**—Con.

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
39	Miscellaneous manufacturing industry and ordnance and accessories:											
	1977 Census[1]	17,259	3,794	440.7	4,406.4	338.7	626.7	2,745.3	10,291.0	9,061.4	19,150.7	473.6
	1976 ASM[1]	(NA)	(NA)	393.4	3,487.0	302.5	564.8	2,168.4	7,580.0	6,707.1	14,486.9	301.9
	1975 ASM[1]	(NA)	(NA)	394.9	3,499.7	303.2	566.8	2,173.5	7,695.9	6,742.5	14,647.2	348.6
	1974 ASM[1]	(NA)	(NA)	435.0	3,477.1	336.9	636.5	2,253.7	7,666.5	6,625.0	14,043.7	362.3
	1973 ASM[1]	(NA)	(NA)	447.1	3,351.0	351.8	660.3	2,187.5	7,166.3	5,969.2	13,046.1	341.2
	1972 Census[1]	15,188	3,755	446.1	3,184.5	350.2	661.5	2,086.7	6,777.0	5,558.8	12,185.9	317.1
	1971 ASM	(NA)	(NA)	411.3	2,739.9	319.1	604.4	1,773.2	5,707.3	4,470.2	10,122.0	262.5
	1970 ASM	(NA)	(NA)	429.3	2,684.9	337.0	643.3	1,752.3	5,433.1	4,348.3	9,743.4	253.2
	1969 ASM	(NA)	(NA)	448.5	2,664.8	362.5	689.7	1,796.4	5,296.3	4,426.0	9,665.4	240.0
	1968 ASM	(NA)	(NA)	430.7	2,461.3	348.8	669.2	1,666.7	4,950.9	4,074.7	8,945.0	209.0
	1967 Census	14,072	3,845	423.1	2,291.0	344.4	662.0	1,552.5	4,599.4	3,773.4	8,310.7	213.5
	1966 ASM	(NA)	(NA)	418.2	2,150.3	340.2	666.3	1,463.3	4,338.3	3,778.8	7,971.4	181.3
	1965 ASM	(NA)	(NA)	416.0	2,042.2	339.6	661.1	1,393.3	4,092.3	3,510.7	7,541.4	165.9
	1964 ASM	(NA)	(NA)	393.7	1,924.0	315.0	631.4	1,313.7	3,762.6	3,151.5	6,889.0	137.4
	1963 Census	14,723	3,618	390.9	1,812.1	315.0	613.2	1,253.5	3,562.4	2,965.0	6,494.8	131.0

(NA) Not available.

[1]Excludes ordnance and accessories. In the 1972 SIC revision, major group 19 was eliminated as a separate major industry group and its industries were reclassified to major groups 34, 36, 37, and 38.

Table 8. Summary Statistics by Major Industry Group: 1977

(Major groups descriptions are: 20--food and kindred products; 21--tobacco manufactures; 22--textile mill products; 23--apparel and other textile products; 24--lumber and wood products; 25--furniture and fixtures; 26--paper and allied products; 27--printing and publishing; 28--chemicals and allied products; 29--petroleum and coal products; 30--rubber and miscellaneous plastics products; 31--leather and leather products; 32--stone, clay, and glass products; 33--primary metal industries; 34--fabricated metal products; 35--machinery, except electrical; 36--electric and electronic equipment; 37--transportation equipment; 38--instruments and related products; 39--miscellaneous manufacturing industries. For explanation of terms, see appendix A)

Item	All establishments[1]	Major industry groups					
		20	21	22	23	24	25
All industries.....number..	359,928	26,656	228	7,202	26,505	37,302	10,235
With 1 to 19 employees.....do..	241,229	15,618	105	3,071	14,573	30,246	6,647
With 20 to 99 employees.....do..	81,118	7,235	38	2,108	8,414	5,481	2,500
With 100 employees or more.....do..	37,581	3,803	85	2,023	3,518	1,575	1,088
All employees, average for year.....1,000..	19,590.1	1,520.0	60.6	875.7	1,334.3	692.4	463.8
Payroll for year, all employees.....mil. dol..	264,013.1	18,543.6	750.7	7,881.4	9,658.6	7,424.7	4,448.3
Production workers:							
Average for year.....1,000..	13,691.0	1,072.0	50.4	764.6	1,156.6	594.8	383.6
March.....do..	13,354.1	1,008.1	50.4	757.5	1,145.3	555.7	374.1
May.....do..	13,627.1	1,029.3	45.0	768.3	1,161.6	590.1	379.0
August.....do..	13,842.3	1,167.4	52.5	768.9	1,157.0	623.8	384.6
November.....do..	13,900.0	1,080.4	53.8	763.5	1,160.3	605.1	395.9
Hours.....millions..	26,686.7	2,112.4	92.6	1,523.1	2,037.6	1,147.6	736.4
January to March.....do..	6,445.7	491.9	22.9	376.7	499.4	264.9	175.8
April to June.....do..	6,762.2	510.8	20.8	395.6	523.1	290.9	186.6
July to Spetember.....do..	6,693.2	571.9	23.7	369.9	503.3	300.1	183.4
October to December.....do..	6,785.4	537.7	25.2	380.9	511.9	291.7	190.6
Wages.....mil. dol..	157,163.7	11,730.7	570.7	6,202.8	7,252.8	5,795.0	3,191.8
Cost of materials, etc.[2].....do..	782,417.7	136,963.7	4,729.8	24,753.2	20,865.5	23,918.7	8,187.4
Materials, parts, containers, etc., consumed.....do..	689,922.1	121,610.4	4,289.4	22,253.7	16,083.0	20,583.0	7,421.9
Resales.....do..	40,146.2	12,455.2	365.5	418.0	705.9	1,390.0	457.5
Fuels consumed.....do..	18,910.3	1,495.4	31.1	495.1	86.1	368.5	76.9
Purchased electric energy.....do..	14,594.4	1,063.0	32.8	649.2	204.1	370.1	123.8
Contract work.....do..	18,844.9	339.7	10.9	937.1	3,786.4	1,207.1	107.3
Value of shipments, including resales[2].....do..	1,358,526.4	192,911.6	9,050.6	40,550.5	40,245.1	39,919.4	16,978.0
Value of resales.....do..	49,804.6	14,627.6	347.2	507.2	930.3	1,488.0	574.7
Value added by manufacture.....do..	585,165.6	56,062.2	4,334.1	16,104.5	19,671.3	16,222.8	8,921.7
Manufacturers' inventories:							
Beginning of year.....do..	174,865.0	16,416.3	3,615.2	5,103.5	5,125.3	4,258.1	2,504.7
Finished products.....do..	55,205.5	8,578.3	215.0	1,839.1	2,144.2	1,653.3	741.6
Work in process.....do..	55,600.2	1,587.0	47.4	1,513.8	1,081.7	888.9	604.6
Materials, supplies, fuel, etc.....do..	64,059.3	6,250.9	3,352.8	1,750.6	1,899.5	1,715.9	1,158.5
End of year.....do..	188,436.4	16,984.9	3,711.9	5,509.9	5,535.8	4,663.8	2,750.3
Finished products.....do..	59,429.9	9,046.7	208.2	1,966.1	2,309.0	1,774.4	788.6
Work in process.....do..	60,732.6	1,584.5	60.6	1,694.0	1,208.9	989.8	688.7
Materials, supplies, fuels, etc.....do..	68,273.9	6,353.6	3,443.1	1,849.9	2,017.9	1,899.6	1,273.0
Capital expenditures for plant and equipment.....do..	50,329.4	4,468.7	189.8	1,354.6	522.9	1,693.4	416.8
New capital expenditures.....do..	47,459.0	4,214.9	181.5	1,223.5	456.7	1,562.6	388.7
New buildings and structures.....do..	8,499.5	908.5	56.7	198.9	114.0	290.9	119.2
New machinery and equipment.....do..	38,959.5	3,306.4	124.7	1,024.5	342.6	1,271.6	269.4
Used capital expenditures.....do..	2,870.4	253.8	8.3	131.1	66.2	130.9	28.1

Item	Major industry groups--Con.						
	26	27	28	29	30	31	32
All industries.....number..	6,545	49,767	12,173	2,206	11,943	3,075	17,744
With 1 to 19 employees.....do..	2,546	40,635	7,571	1,433	6,649	1,589	12,543
With 20 to 99 employees.....do..	2,276	7,230	3,085	495	3,740	823	3,965
With 100 employees or more.....do..	1,723	1,902	1,517	278	1,554	663	1,236
All employees, average for year.....1,000..	628.7	1,092.2	880.2	146.8	721.3	242.5	613.7
Payroll for year, all employees.....mil. dol..	8,942.9	14,024.5	13,839.3	2,696.2	8,536.0	1,859.7	7,943.1
Production workers:							
Average for year.....1,000..	486.3	625.8	543.8	101.1	563.7	211.5	484.4
March.....do..	476.3	614.8	537.5	95.2	548.9	208.5	459.0
May.....do..	485.5	619.6	545.2	102.0	561.6	212.8	485.5
August.....do..	492.4	623.4	548.1	104.5	570.7	212.4	499.3
November.....do..	490.6	631.3	542.5	102.5	572.7	212.1	491.9
Hours.....millions..	985.9	1,152.8	1,089.9	207.9	1,110.6	381.9	960.7
January to March.....do..	241.5	286.4	268.4	47.4	271.9	93.2	219.0
April to June.....do..	248.7	285.2	276.2	53.1	281.9	98.0	245.6
July to September.....do..	246.9	287.0	272.9	54.3	275.8	93.5	252.5
October to December.....do..	248.8	294.3	272.2	53.2	281.0	97.2	243.5
Wages.....mil. dol..	6,323.1	7,322.1	7,446.2	1,765.4	5,841.6	1,408.1	5,766.6
Cost of materials, etc[2].....do..	30,148.2	17,794.7	62,293.8	81,655.4	20,217.8	3,932.6	16,444.8
Materials, parts, containers, etc., consumed.....do..	26,380.3	13,216.7	51,501.5	75,368.3	17,790.7	3,441.8	12,491.9
Resales.....do..	627.2	589.5	3,487.4	3,487.0	1,221.2	283.3	1,149.7
Fuels consumed.....do..	2,039.6	114.7	3,725.1	1,805.4	364.6	37.0	1,833.6
Purchased electric energy.....do..	926.2	312.2	2,725.6	639.9	604.0	46.3	769.5
Contract work.....do..	175.0	3,561.5	854.0	354.9	237.3	124.2	200.1

See footnotes at end of table.

Table 8. Summary Statistics by Major Industry Group: 1977—Con.

(Major groups descriptions are: 20--food and kindred products; 21--tobacco manufactures; 22--textile mill products; 23--apparel and other textile products; 24--lumber and wood products; 25--furniture and fixtures; 26--paper and allied products; 27--printing and publishing; 28--chemicals and allied products; 29--petroleum and coal products; 30--rubber and miscellaneous plastics products; 31--leather and leather products; 32--stone, clay, and glass products; 33--primary metal industries; 34--fabricated metal products; 35--machinery, except electrical; 36--electric and electronic equipment; 37--transportation equipment; 38--instruments and related products; 39--miscellaneous manufacturing industries. For explanation of terms, see appendix A)

Item	Major industry groups--Con.						
	26	27	28	29	30	31	32
Value of shipments, including resales[2]....do..	52,085.7	49,716.2	118,153.6	97,452.7	39,552.8	7,607.4	35,476.6
Value of resales....do..	774.7	821.2	4,891.5	3,698.6	1,514.0	363.6	1,360.9
Value added by manufacture....do..	22,170.9	31,979.5	56,720.6	16,377.6	19,740.0	3,718.8	19,129.6
Manufacturers' inventories:							
Beginning of year....do..	5,281.0	3,943.0	13,447.5	4,912.9	4,441.4	1,033.0	3,995.3
Finished products....do..	1,811.1	1,367.1	6,338.7	2,426.4	1,931.3	428.1	1,923.2
Work in process....do..	568.6	868.7	2,032.0	1,192.7	741.6	240.9	560.8
Materials, supplies, fuel, etc....do..	2,901.3	1,707.2	5,076.3	1,293.8	1,768.5	364.1	1,511.3
End of year....do..	5,641.5	4,200.6	14,791.3	5,656.3	4,952.7	1,098.9	4,279.3
Finished products....do..	1,964.3	1,349.8	6,993.5	2,796.2	2,244.8	457.0	1,987.7
Work in process....do..	648.8	944.0	2,239.2	1,403.2	833.0	255.9	594.1
Materials, supplies, fuel, etc....do..	3,028.3	1,906.8	5,558.6	1,457.0	1,874.9	386.0	1,697.5
Capital expenditures, for plant and equipment....do..	3,503.4	1,728.3	8,402.5	2,349.9	1,763.7	106.6	2,001.0
New capital expenditures....do..	3,295.0	1,597.8	8,198.9	2,261.3	1,645.3	96.2	1,881.4
New buildings and structures....do..	326.0	310.5	1,246.3	617.8	306.4	21.6	337.2
New machinery and equipment....do..	2,969.0	1,287.2	6,952.6	1,643.5	1,338.9	74.6	1,544.2
Used capital expenditures....do..	208.4	130.6	203.6	88.6	118.4	10.4	119.6

	Major industry groups--Con.						
	33	34	35	36	37	38	39
All industries....number..	7,375	33,712	48,200	14,973	10,176	7,481	17,259
With 1 to 19 employees....do..	3,395	20,973	35,754	8,635	6,523	4,943	13,465
With 20 to 99 employees....do..	2,248	9,421	9,081	3,468	2,091	1,630	2,884
With 100 employees or more....do..	1,732	3,318	3,365	2,870	1,562	908	910
All employees, average for year....1,000..	1,113.6	1,555.7	2,083.3	1,723.1	1,768.2	559.1	440.7
Payroll for year, all employees....mil. dol..	18,745.0	21,035.9	30,557.5	22,544.2	30,673.5	7,520.4	4,406.4
Production workers:							
Average for year....1,000..	885.3	1,191.6	1,413.8	1,191.4	1,284.4	347.2	338.7
March....do..	871.7	1,158.2	1,392.3	1,160.3	1,274.6	340.5	325.1
May....do..	897.2	1,184.6	1,403.0	1,179.7	1,297.2	344.6	335.4
August....do..	890.2	1,202.3	1,412.5	1,196.8	1,239.5	350.7	345.5
November....do..	881.6	1,219.2	1,445.4	1,227.6	1,325.4	351.9	346.3
Hours....millions..	1,744.0	2,373.8	2,803.0	2,309.2	2,612.7	677.9	626.7
January to March....do..	424.3	569.0	679.7	561.5	634.6	167.7	149.8
April to June....do..	453.5	601.1	695.8	587.1	677.1	171.5	159.4
July to September....do..	431.6	597.2	696.3	564.3	647.2	166.1	155.3
October to December....do..	434.7	606.5	731.2	596.3	653.9	172.6	162.1
Wages....mil. dol..	14,065.2	14,428.8	18,298.4	12,951.6	20,314.3	3,743.2	2,745.3
Cost of materials, etc.[2]....do..	66,171.3	45,384.8	56,531.6	39,369.5	103,489.6	10,503.9	9,061.4
Materials, parts, containers, etc., consumed....do..	56,899.6	39,722.6	49,813.5	34,741.7	99,361.8	9,052.3	7,897.9
Resales....do..	1,239.0	2,783.6	3,376.3	2,850.5	1,605.1	961.6	692.6
Fuels consumed....do..	4,299.5	607.2	475.4	318.8	554.3	107.7	74.2
Purchased electric energy....do..	2,750.3	753.0	802.9	672.9	850.9	168.9	128.8
Contract work....do..	983.0	1,518.4	2,063.5	785.6	1,117.5	213.5	267.9
Value of shipments, including resales[2]....do..	103,179.4	90,023.5	122,187.7	88,433.1	166,954.0	28,897.8	19,150.7
Value of resales....do..	1,425.8	3,410.4	4,652.2	3,935.7	1,994.4	1,488.0	998.6
Value added by manufacture....do..	37,568.2	45,511.5	67,222.5	50,365.7	64,291.1	18,762.0	10,291.0
Manufacturers' inventories:							
Beginning of year....do..	17,884.5	14,111.8	25,153.3	14,273.0	20,745.1	5,311.1	3,309.0
Finished products....do..	4,401.0	3,400.0	7,030.1	3,645.7	2,662.2	1,369.9	1,299.3
Work in process....do..	6,056.2	4,877.8	10,998.2	6,305.3	12,375.6	2,248.6	810.0
Materials, supplies, fuel, etc....do..	7,427.9	5,834.0	7,125.1	4,322.1	5,707.3	1,692.6	1,199.6
End of year....do..	18,458.3	15,306.2	27,170.9	16,058.7	22,240.5	5,810.6	3,614.2
Finished products....do..	4,675.5	3,688.9	7,506.7	3,962.5	2,817.0	1,495.9	1,397.2
Work in process....do..	6,340.5	5,461.9	12,088.0	7,290.5	13,002.5	2,490.7	913.8
Materials, supplies, fuel, etc....do..	7,442.3	6,155.4	7,576.2	4,805.7	6,421.0	1,824.1	1,303.1
Capital expenditures for plant and equipment....do..	4,746.4	2,880.0	4,762.5	3,118.2	4,820.2	983.2	517.0
New capital expenditures....do..	4,496.8	2,606.1	4,402.4	2,866.5	4,670.9	938.9	473.6
New buildings and structures....do..	652.8	480.9	948.7	519.9	695.6	235.3	112.1
New machinery and equipment....do..	3,844.0	2,125.3	3,453.7	2,346.6	3,975.3	703.6	361.5
Used capital expenditures....do..	249.6	273.9	360.0	251.7	149.3	44.3	43.4

[1]Includes administrative offices and auxiliaries.

[2]Aggregate of cost of materials and value of shipments for industry groups and for all manufacturing industries includes extensive duplication, since products of some industries are used as materials by others.

Table 9. Gross Book Value of Depreciable Assets, Capital Expenditures, Retirements, Depreciation Charges, and Rental Payments for Buildings and Machinery by Major Industry Group: 1977

Item description	Total (million dollars)	Buildings and other structures (million dollars)	Machinery and equipment (million dollars)	Standard error of estimate for total (percent)	Total (million dollars)	Buildings and other structures (million dollars)	Machinery and equipment (million dollars)	Standard error of estimate for total (percent)	Total (million dollars)	Buildings and other structures (million dollars)	Machinery and equipment (million dollars)	Standard error of estimate for total (percent)
	ALL INDUSTRIES				26-PAPER AND ALLIED PRODUCTS				33-PRIMARY METAL INDUSTRIES			
ASSETS, BEGINNING OF YEAR.	402 067.0	104 196.3	297 870.6	1	28 362.6	4 997.2	23 365.4	1	55 272.7	10 708.2	44 563.3	1
CAPITAL EXPEND., NEW . .	48 641.4	8 605.5	40 035.9	1	3 352.2	332.6	3 019.6	1	4 549.3	653.9	3 895.3	1
CAPITAL EXPEND., USED. .	3 265.9	867.6	2 398.3	1	228.6	41.7	186.9	5	262.7	38.9	223.8	3
RETIREMENTS.	14 954.0	2 415.8	12 538.4	1	572.2	74.7	497.8	2	1 773.1	285.4	1 488.0	1
ASSETS, END OF YEAR. . . .	439 020.3	111 257.7	327 762.6	1	31 371.1	5 297.0	26 074.0	1	58 311.6	11 115.8	47 195.5	1
DEPRECIATION CHARGES . . .	26 734.9	4 587.4	22 147.3	1	1 602.8	213.3	1 389.5	1	2 482.9	325.6	2 157.5	1
RENTAL PAYMENTS.	7 064.2	3 207.9	3 856.3	1	322.7	131.3	191.3	3	330.3	85.9	244.2	3
	20-FOOD AND KINDRED PRODUCTS				27-PRINTING AND PUBLISHING				34-FABRICATED METAL PRODUCTS			
ASSETS, BEGINNING OF YEAR.	35 088.4	10 853.8	24 234.7	1	13 873.3	3 831.9	10 041.2	1	23 743.9	6 350.7	17 393.8	1
CAPITAL EXPEND., NEW . .	4 319.3	947.6	3 371.6	1	1 799.7	329.7	1 470.0	1	2 761.8	481.0	2 280.8	7
CAPITAL EXPEND., USED. .	274.8	81.5	193.3	4	198.0	68.6	129.4	1	304.8	82.1	222.5	6
RETIREMENTS.	1 256.2	263.7	992.9	1	631.5	93.1	539.1	1	892.6	160.4	732.2	2
ASSETS, END OF YEAR. . . .	38 426.1	11 619.3	26 806.8	1	15 239.3	4 137.1	11 101.5	1	25 917.9	6 753.3	19 164.5	1
DEPRECIATION CHARGES . . .	2 432.9	504.1	1 928.8	1	1 110.1	180.8	929.3	2	1 786.8	322.8	1 464.0	1
RENTAL PAYMENTS.	787.5	285.0	502.3	2	604.1	345.3	258.2	2	612.9	323.4	289.7	1
	21-TOBACCO PRODUCTS				28-CHEMICALS AND ALLIED PRODUCTS				35-MACHINERY, EXCEPT ELECTRICAL			
ASSETS, BEGINNING OF YEAR.	1 663.8	559.7	1 104.1	1	58 531.2	11 440.4	47 090.6	1	32 563.6	9 316.5	23 247.3	1
CAPITAL EXPEND., NEW . .	181.5	56.9	124.6	1	8 180.7	1 222.4	6 957.4	1	4 435.9	933.0	3 502.5	1
CAPITAL EXPEND., USED. .	8.5	1.7	6.8	4	211.4	49.3	162.0	3	426.9	148.9	278.0	1
RETIREMENTS.	64.2	4.0	60.2	1	1 623.1	264.6	1 358.4	1	1 334.2	186.1	1 148.3	1
ASSETS, END OF YEAR. . . .	1 789.7	614.3	1 175.4	1	65 300.3	12 447.9	52 851.8	1	36 091.8	10 212.1	25 879.0	1
DEPRECIATION CHARGES . . .	111.0	29.5	81.5	1	4 001.4	577.9	3 423.4	1	2 494.3	401.1	2 093.4	1
RENTAL PAYMENTS.	14.4	9.0	5.4	2	513.3	157.2	355.8	2	848.6	397.0	451.4	2
	22-TEXTILE MILL PRODUCTS				29-PETROLEUM AND COAL PRODUCTS				36-ELECTRIC, ELECTRONIC EQUIP			
ASSETS, BEGINNING OF YEAR.	13 992.5	3 592.4	10 400.2	1	23 677.4	9 335.1	14 342.2	1	21 845.9	6 716.2	15 129.5	1
CAPITAL EXPEND., NEW . .	1 285.6	216.7	1 068.9	1	2 250.7	607.0	1 643.7	1	2 873.2	512.7	2 360.2	1
CAPITAL EXPEND., USED. .	163.1	32.8	130.3	4	98.8	39.7	59.1	10	248.8	83.3	165.5	2
RETIREMENTS.	600.8	98.4	502.3	2	309.3	124.9	184.5	2	1 045.0	134.7	910.3	1
ASSETS, END OF YEAR. . . .	14 840.2	3 742.9	11 097.1	1	25 717.5	9 856.8	15 860.5	1	23 922.5	7 177.5	16 744.7	1
DEPRECIATION CHARGES . . .	921.1	139.9	781.2	1	1 068.2	394.9	673.2	1	1 710.5	291.9	1 418.5	1
RENTAL PAYMENTS.	192.4	94.4	98.1	3	136.0	33.4	102.4	3	529.8	249.8	279.9	1
	23-APPAREL, OTHER TEXTILE PRODS				30-RUBBER, MISC PLASTICS PROD				37-TRANSPORTATION EQUIPMENT			
ASSETS, BEGINNING OF YEAR.	3 773.6	1 276.7	2 497.1	1	14 774.0	3 582.5	11 191.8	1	28 978.2	8 889.0	20 089.1	1
CAPITAL EXPEND., NEW . .	528.9	127.3	401.6	3	1 700.2	329.9	1 370.3	1	4 685.1	714.5	3 970.1	4
CAPITAL EXPEND., USED. .	114.3	24.1	90.2	3	129.7	35.6	94.1	7	158.1	29.9	128.3	8
RETIREMENTS.	311.6	80.5	231.6	4	566.9	80.3	486.8	2	1 976.7	165.8	1 811.0	1
ASSETS, END OF YEAR. . . .	4 105.3	1 347.7	2 757.3	1	16 036.9	3 867.6	12 169.4	1	31 844.7	9 467.5	22 376.8	1
DEPRECIATION CHARGES . . .	329.1	64.7	264.4	5	1 131.4	160.0	971.4	1	1 894.8	344.1	1 550.6	1
RENTAL PAYMENTS.	326.6	231.6	94.9	4	284.2	152.3	131.5	3	475.1	178.3	296.8	2
	24-LUMBER AND WOOD PRODUCTS				31-LEATHER AND LEATHER PRODUCTS				38-INSTRUMENTS, RELATED PRODUCTS			
ASSETS, BEGINNING OF YEAR.	11 258.6	2 430.2	8 828.4	1	895.9	327.0	568.9	2	7 732.0	2 712.5	5 019.4	1
CAPITAL EXPEND., NEW . .	1 709.5	275.8	1 433.6	1	109.0	25.6	83.3	7	930.5	225.9	704.6	2
CAPITAL EXPEND., USED. .	150.4	21.4	129.0	6	12.9	4.9	8.0	10	54.2	24.4	29.8	13
RETIREMENTS.	666.1	125.3	541.0	1	45.0	9.2	35.9	8	296.4	70.4	226.0	4
ASSETS, END OF YEAR. . . .	12 452.4	2 602.0	9 850.0	1	972.7	348.4	624.3	2	8 420.2	2 892.2	5 528.0	1
DEPRECIATION CHARGES . . .	1 128.5	167.0	961.4	2	71.7	15.5	56.2	4	602.0	125.3	476.7	1
RENTAL PAYMENTS.	243.4	96.5	146.4	4	64.0	31.1	32.9	3	212.4	100.4	111.8	3
	25-FURNITURE AND FIXTURES				32-STONE, CLAY, GLASS PRODUCTS				39-MISC MANUFACTURING INDUSTRIES			
ASSETS, BEGINNING OF YEAR.	3 621.6	1 532.0	2 089.4	1	18 511.0	4 438.2	14 072.6	1	3 906.8	1 306.1	2 600.6	1
CAPITAL EXPEND., NEW . .	447.3	142.5	304.9	4	2 017.5	346.0	1 671.5	1	523.5	122.6	400.9	4
CAPITAL EXPEND., USED. .	36.3	15.8	20.5	12	133.8	24.6	109.1	9	49.8	18.4	31.4	7
RETIREMENTS.	173.6	67.3	106.3	4	592.2	80.0	512.4	3	223.3	47.9	175.4	7
ASSETS, END OF YEAR. . . .	3 931.7	1 622.9	2 308.6	1	20 070.0	4 728.8	15 340.9	1	4 256.7	1 399.3	2 857.5	1
DEPRECIATION CHARGES . . .	275.9	69.0	206.9	2	1 247.4	191.3	1 056.0	2	332.1	68.7	263.4	2
RENTAL PAYMENTS.	169.8	109.5	60.2	4	225.1	82.9	142.0	4	171.6	112.3	59.3	3

Note: Expenditures data, shown in table 3a, are census universe figures and may differ from ASM sample estimates shown in this table. Table 3b figures represent best estimate of year-to-year change as measured by continuing ASM sample, but are subject to sampling errors. Hence, as estimates of level, they are not as reliable as universe figures. For a description of the standard error of estimate, see the section "Qualifications of data" in appendix B.

Table 10. **Cost of Purchased Services by Major Industry Group: 1977**

Code	Industry group	Repair of buildings			Repair of machinery			Communication services		
		Cost (million dollars)	Response coverage ratio (percent)	Standard error of estimate (percent)	Cost (million dollars)	Response coverage ratio (percent)	Standard error of estimate (percent)	Cost (million dollars)	Response coverage ratio (percent)	Standard error of estimate (percent)
	United States	2,300.2	61	(NA)	9,569.2	59	(NA)	3,576.7	63	(NA)
20	Food and kindred products	321.8	59	7	1,392.5	61	6	(347.7)	62	24
21	Tobacco products	13.5	72	3	6.7	61	14	4.2	72	3
22	Textile mill products	118.0	59	2	454.8	62	3	207.5	68	4
23	Apparel and other textile products	(227.9)	57	82	(519.0)	58	19	(406.5)	60	20
24	Lumber and wood products	(33.8)	60	16	(283.2)	60	59	(66.8)	59	(A)
25	Furniture and fixtures	(23.0)	58	(A)	(69.8)	55	40	(40.1)	56	58
26	Paper and allied products	79.4	53	10	(524.0)	56	31	(100.4)	56	75
27	Printing and publishing	75.4	60	4	(501.1)	63	29	351.4	60	6
28	Chemicals and allied products	231.8	63	3	989.2	61	1	249.6	68	3
29	Petroleum and coal products	174.0	57	2	410.4	51	7	(25.2)	55	88
30	Rubber and miscellaneous plastics products	58.9	58	4	306.7	63	3	89.6	62	5
31	Leather and leather products	10.5	54	8	31.8	59	10	12.0	53	8
32	Stone, clay, and glass products	62.3	59	6	424.5	57	8	(72.1)	59	(A)
33	Primary metal products	178.5	61	2	1127.4	56	2	105.3	68	6
34	Fabricated metal products	140.8	57	7	898.5	57	20	(314.6)	59	30
35	Machinery, except electrical	(192.4)	62	32	(556.4)	62	20	(423.9)	64	22
36	Electric and electronic equipment	141.1	65	6	348.4	66	6	(296.9)	63	23
37	Transportation equipment	154.3	73	2	(562.0)	69	24	(244.1)	69	49
38	Instruments and related products	41.8	68	5	80.0	66	4	113.4	78	7
39	Miscellaneous manufacturing industries	21.0	65	5	(82.8)	65	22	(105.4)	67	46

Note: Figures are estimates collected on the continuing ASM sample and, as such, are subject to sampling errors. Figures in parenthesis have standard errors of 15 percent or more.

(A) Indicates standard errors of 100 percent or more. The estimates are of limited reliability and should be used with caution.
(NA) Not available. .

Newspapers, Periodicals, Books, and Miscellaneous Publishing

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DESCRIPTION OF INDUSTRIES

NEWSPAPERS, PERIODICALS, BOOKS, AND MISCELLANEOUS PUBLISHING

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
2711	Newspapers
2721	Periodicals
2731	Book Publishing
2732	Book Printing
2741	Miscellaneous Publishing

The industry statistics (employment, payroll, cost of materials, value of receipts, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing receipts or shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

As in previous censuses, publishing, printing, and allied activities, other than those performed in government-owned and operated establishments, are included as manufacturing activities. Establishments engaged in publishing newspapers, and establishments primarily engaged in publishing periodicals, books, and miscellaneous publications (including those primarily engaged in book printing) are assigned to one of the five separately described industries below. As noted in the Introduction, this report does not incorporate any data reported by religious, social, charitable, educational, and other nonprofit organizations whose employees are not covered under the Social Security System. News syndicates are classified in service industries and their activities are included in the census of business.

The term "publisher" is used to designate the person or organization by whom or in whose name newspapers, periodicals, and other publications are listed. In order to provide the fullest possible coverage of the publishing field in the census of manufactures, a separate report was requested from each publishing establishment, whether or not any printing was done at the publishing location. All establishments engaged in the publishing of one newspaper or more are classified as newspaper publishers, without regard to the ratio of receipts from other activities (e.g., job printing) to their total receipts.

Publishers of newspapers and periodicals were asked to report separately for each of their publications, where possible, information on circulation and dollar receipts by frequency of issue as well as by type of revenue. The more common frequencies of issue were listed on the report forms supplied to all newspapers, and a special inquiry was addressed to publishers of periodicals to provide uniform designation of periodicals by type of issue. Newspaper and periodical publishers were required to break their total revenues into two parts—receipts from subscriptions and sales, and receipts from advertising. "Total revenue" was defined as net after deducting advertising agency commissions, cash discounts, newstand, carrier, and wholesalers' commissions, and other similar items.

As in 1972, the data on number of employees for newspaper and periodical publishing do not include newsboys or carrier boys. Again, periodical and book publishers have been subdivided to group separately those who publish only from those who print as well as publish. Newspapers are also subdivided into daily and weekly and other papers. The industry statistics shown in tables 2, 3, and 4 provide this subindustry treatment for industries 2711, 2721, 2731, and 2741.

INDUSTRY 2711, NEWSPAPERS

This industry comprises establishments primarily engaged in publishing newspapers, or in publishing and printing newspapers. These establishments carry on the various operations necessary for issuing newspapers, including the gathering of news and the preparation of editorials and advertisements, but may or may not perform their own printing. Commercial printing is frequently carried on by establishments engaged in publishing and printing newspapers, but, even though the commercial printing may be of major importance, such establishments are included in this industry. For the purposes of the census of manufactures, the term "newspaper" includes those publications issued at regular frequencies which contain news of interest to the general public whether or not they are published in the English language. Establishments not engaged in publishing newspapers, but which print or lithograph newspapers for publishers, are classified in industry group 275. News syndicates are classified in service industry 7351.

Publications have been classified as periodicals (industry 2721) rather than as newspapers if their news and editorial

presentations do not appear to be directed to the public at large. Among the types of publications sometimes considered newspapers, but treated in the census as periodicals, are the following: Trade journals, house organs, local church or school papers, and like publications with very limited or specialized news treatment. Generally, publications issued by nonprofit organizations (educational, religious, charitable, labor, business, professional, etc.) are classified as periodicals, as are magazine and comic supplements for Sunday newspapers.

The total value of receipts for establishments classified in the Newspapers industry amounted to $13,056 million in 1977, an increase of 58 percent from 1972. The value of receipts of products classified as primary to the industry was $12,468 million, an increase of 58 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were daily and Sunday newspapers, for which receipts increased 54 percent, and weekly and other newspapers, for which receipts increased 98 percent. Value added by manufacture, at $9,519 million in 1977, was 53 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 349.9 thousand employees. The leading States in employment were California, New York, Pennsylvania, and Illinois accounting for approximately 30 percent of the industry's 1977 employment. Data for Pennsylvania have been withheld to avoid disclosing operations of individual companies. However, establishments counts and employment size ranges are provided. These same States were in the forefront for 1972 when they accounted for 29 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 2721, PERIODICALS

This industry comprises establishments primarily engaged in publishing periodicals, or in preparing, publishing, and printing periodicals. These establishments carry on the various operations necessary for issuing periodicals, but may or may not perform their own printing. Establishments not engaged in publishing periodicals, but which print or lithograph periodicals for publishers are classified in industry group 275.

Data on the periodical publishing activities of nonprofit organizations (religious, educational, social, charitable, etc.) have been included to the extent that the employees of such organizations are covered under the Social Security System. For the distinction between newspapers and periodicals which has been applied in classifying establishments for the census of manufactures, see the foregoing statements under industry 2711.

The total value of receipts for establishments classifed in the Periodicals industry amounted to $6,057 million in 1977, an increase of 72 percent from 1972. The value of receipts of products classified as primary to the industry was $5,529 million, an increase of 73 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were general periodicals, for which receipts increased 89 percent, and business and professional periodicals, for which receipts increased 43 percent. Value added by manufacture, at $3,763 million in 1977, was 78 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 69.9 thousand employees, an increase of 5 percent from 1972. The leading States in employment were New York, Illinois, California, and Pennsylvania, accounting for 63 percent of the industry's 1977 employment. This represents a shift from 1972 when New York, Illinois, California, and the District of Columbia accounted for 60 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

INDUSTRY 2731, BOOK PUBLISHING

This industry comprises establishments primarily engaged in publishing only or in publishing and printing books and pamphlets. Establishments primarily engaged in printing or in printing and binding (but not publishing) books and pamphlets are classified in industry 2732. Establishments primarily engaged in book binding are classified in industry 2789.

Industry 2731 also includes data on book publishing activities obtained from nonprofit organizations whose employees are covered under the Social Security System and were able to report their book publishing operations as a separate establishment.

The data presented in table 6a for number of books sold represent the total number of books sold (shipped and billed) by publishers during 1977, without regard to whether these books were actually published or printed in 1977. The value figures shown in this table and in tables 6b and 6c are net publishers' receipts after deducting cash discounts, returns, and allowances; i.e., they represent net sales.

"Books" are considered to include all collections of 49 or more pages, exclusive of the cover, bound by any method, and all hardboard collections, irrespective of the number of pages. (The designation "hardbound" describes books which are bound with paper over board, cloth over board, and artificial or genuine leather.) "Pamphlets" are defined to mean any collection to be offered for sale of at least 5 but less than 49 paperbound pages.

The total value of receipts for establishments classified in the Book Publishing industry amounted to $4,794 million in 1977, an increase of 68 percent from 1972. The value of receipts of products classified as primary to the industry was $5,008 million, an increase of 72 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were general books, for which receipts increased 88 percent, and textbooks, for which receipts increased 74 percent. Value added by manufacture, at $3,262 million in 1977, was 69 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 59.5 thousand employees, an increase of 4 percent from 1972. The leading States in employment were New York, Illinois, California, and Massachusetts, accounting for 61 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 2732, BOOK PRINTING

This industry comprises establishments primarily engaged in printing only or in printing and binding books, and pamphlets, but not engaged in publishing. Establishments primarily engaged in publishing or in publishing and printing books and pamphlets are classified in industry 2731. Establishments engaged in both printing and binding books, but primarily binding books printed elsewhere are classified in industry 2789.

Establishments classified in industry 2732 are similar in character to some establishments primarily engaged in commercial printing (industries 2751, 2752, and 2754). The distinction is that all the establishments classified in industry 2732 derive the greater part of their revenue from printing books and pamphlets, while such operations are secondary activities for establishments classified in industries 2751, 2752, and 2754.

The total value of receipts for establishments classified in the Book Printing industry amounted to $1,692 million in 1977, an increase of 80 percent from 1972. The value of receipts of products classified as primary to the industry was $1,831 million, an increase of 74 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were books, printed and bound, lithographic process, from which receipts increased 100 percent, and books, printed only, lithographic process, for which receipts increased 59 percent. Value added by manufacture, at $1,029 million in 1977, was 70 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 46.9 thousand employees, an increase of 15 percent from 1972. The leading States in employment were New York, Tennessee, Indiana, and Pennsylvania, accounting for 35 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 2741, MISCELLANEOUS PUBLISHING

This industry comprises establishments primarily engaged in miscellaneous publishing activities, not elsewhere classified, whether or not engaged in printing. Establishments primarily engaged in offering financial, credit, or other business services, and which may publish directories as part of this service, are not included in this industry, but are classified in service industries.

The total value of receipts for establishments classified in the Miscellaneous Publishing industry amounted to $1,851 million in 1977, an increase of 73 percent from 1972. The value of receipts of products classified as primary to the industry was $1,935 million, an increase of 83 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were telephone directories, for which receipts increased 96 percent, and business service publications, for which receipts increased 72 percent. Value added by manufacture, at $1,291 million in 1977, was 66 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 42.1 thousand employees, an increase of 9 percent from 1972. The leading States in employment were New York, Illinois, New Jersey, and California, accounting for 53 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 55 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2711, NEWSPAPERS																
1977 Census--	7 836	8 867	2 147	349.9	4 306.0	147.2	252.5	1 805.3	9 519.1	3 539.2	13 055.9	478.1	(NA)	382.1	96	100
1976 ASM----	(NA)	(NA)	(NA)	364.2	4 068.1	162.3	275.9	1 784.8	8 482.3	3 180.2	11 659.2	376.7	4 577.4	367.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	360.4	3 770.2	165.5	284.3	1 708.7	7 578.4	2 856.4	10 432.6	362.7	4 366.5	302.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	358.1	3 598.5	166.9	292.0	1 699.3	7 044.9	2 528.0	9 567.9	408.2	4 170.6	289.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	353.2	3 385.3	167.3	293.2	1 613.9	6 677.0	2 192.4	8 868.4	385.3	3 807.8	187.0	(NA)	(NA)
1972 Census--	7 467	8 116	2 119	348.5	3 168.1	169.7	298.4	1 536.8	6 219.9	2 043.5	8 262.8	359.5	3 638.8	152.5	97	100
1971 ASM----	(NA)	(NA)	(NA)	346.4	2 868.7	164.4	302.0	1 408.6	5 536.6	1 817.5	7 354.5	270.0	3 242.9	168.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	349.1	2 715.5	168.2	308.9	1 344.1	5 194.8	1 768.3	6 966.6	267.8	3 105.8	183.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	360.5	2 614.2	181.5	321.7	1 316.5	5 028.6	1 790.9	6 822.8	263.3	3 022.0	200.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	338.5	2 368.7	169.7	303.0	1 187.7	4 519.1	1 672.1	6 191.2	238.4	2 827.1	178.0	(NA)	(NA)
1967 Census--	7 589	8 094	2 029	335.9	2 223.7	169.2	302.0	1 121.5	4 184.7	1 573.7	5 757.1	246.7	2 626.7	162.5	97	100
1966 ASM----	(NA)	(NA)	(NA)	333.5	2 121.2	167.6	313.5	1 091.4	4 012.2	1 508.8	5 520.2	227.8	(NA)	148.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	327.7	2 006.4	167.6	303.8	1 043.6	3 731.7	1 423.6	5 156.1	170.0	(NA)	113.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	317.9	1 901.1	166.3	319.9	997.8	3 460.8	1 359.2	4 820.4	121.6	2 081.5	120.4	(NA)	(NA)
1963 Census--	7 982	8 331	1 865	306.4	1 784.6	160.1	294.5	935.2	3 201.9	1 281.1	4 483.6	135.2	1 954.3	115.3	96	100
INDUSTRY 2721, PERIODICALS																
1977 Census--	2 863	2 994	525	69.9	1 019.8	10.6	20.5	115.7	3 762.7	2 289.2	6 056.5	78.9	(NA)	349.6	90	96
1976 ASM----	(NA)	(NA)	(NA)	72.5	950.8	13.9	23.8	128.8	3 084.2	1 962.2	5 043.5	64.5	730.5	280.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	72.9	880.0	13.6	24.3	117.1	2 652.1	1 744.1	4 379.7	62.2	710.6	285.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	71.7	808.2	13.0	23.7	104.3	2 435.8	1 656.9	4 059.4	56.1	657.2	259.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	70.1	760.8	12.6	22.7	95.9	2 344.4	1 513.3	3 855.7	60.0	625.5	221.5	(NA)	(NA)
1972 Census--	2 456	2 534	452	66.5	708.5	11.1	21.1	84.6	2 109.9	1 404.2	3 510.6	56.8	587.8	197.2	89	95
1971 ASM----	(NA)	(NA)	(NA)	71.5	684.8	13.6	25.6	101.7	2 008.6	1 239.3	3 238.6	107.0	658.1	192.7	(NA)	(NA)
1970 ASM[6]---	(NA)	(NA)	(NA)	77.1	699.5	14.8	29.8	112.6	1 986.5	1 198.0	3 195.1	73.7	631.0	196.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	85.1	727.7	16.0	29.1	105.6	2 118.0	1 360.3	3 468.4	73.6	677.5	222.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	83.5	692.7	16.9	29.8	94.9	2 048.2	1 306.7	3 341.9	62.1	657.2	207.7	(NA)	(NA)
1967 Census--	2 430	2 510	454	79.1	633.7	14.5	25.2	80.5	1 868.7	1 234.1	3 095.9	58.0	607.3	164.9	89	97
1966 ASM----	(NA)	(NA)	(NA)	71.6	547.9	14.0	26.5	78.3	1 705.8	1 028.0	2 717.9	34.4	(NA)	175.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	70.0	510.0	14.0	26.5	79.1	1 602.8	1 034.2	2 625.6	22.8	(NA)	148.4	(NA)	(NA)
1964 ASM[6]---	(NA)	(NA)	(NA)	67.3	489.5	12.2	22.6	65.7	1 426.4	1 011.6	2 464.4	37.6	379.7	138.1	(NA)	(NA)
1963 Census--	2 362	2 630	402	67.7	461.1	12.3	22.1	65.6	1 349.0	958.1	2 295.7	33.8	346.2	131.4	91	96
INDUSTRY 2731, BOOK PUBLISHING																
1977 Census--	1 652	1 745	346	59.5	830.2	13.3	24.9	140.1	3 261.9	1 544.2	4 793.9	79.8	(NA)	992.0	94	88
1976 ASM[6]---	(NA)	(NA)	(NA)	58.2	747.1	15.9	28.2	157.8	2 711.6	1 287.6	3 967.5	77.7	593.1	875.2	(NA)	(NA)
1975 ASM[5]---	(NA)	(NA)	(NA)	55.5	685.2	15.0	26.0	137.8	2 428.1	1 157.7	3 536.5	75.1	546.0	827.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	54.4	621.5	14.1	25.5	121.3	2 311.6	1 119.6	3 348.8	55.9	478.2	788.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	59.2	610.4	15.9	28.5	135.6	2 085.6	1 063.1	3 142.9	48.9	519.6	673.0	(NA)	(NA)
1972 Census--	1 124	1 205	307	57.1	557.7	16.2	31.4	128.6	1 935.8	959.9	2 856.8	48.4	511.9	629.4	93	86
1971 ASM----	(NA)	(NA)	(NA)	59.9	535.7	17.4	33.3	131.0	1 879.1	892.5	2 739.3	60.0	456.4	649.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	55.7	480.1	14.6	29.5	104.7	1 644.8	818.7	2 434.2	52.3	418.9	594.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	56.4	457.0	14.2	26.5	89.9	1 563.1	824.8	2 417.2	40.9	343.7	590.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	51.9	398.1	13.8	25.7	81.8	1 366.9	711.0	2 099.4	35.3	333.7	535.7	(NA)	(NA)
1967 Census--	963	1 022	287	52.0	389.9	13.3	24.8	76.6	1 456.6	762.8	2 134.8	55.1	337.6	573.2	95	86
1966 ASM----	(NA)	(NA)	(NA)	54.0	359.8	12.2	23.6	61.0	1 325.7	749.8	1 996.3	47.9	(NA)	514.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	50.4	322.5	11.5	22.7	55.9	1 115.1	672.1	1 767.1	29.6	(NA)	418.9	(NA)	(NA)
1964 ASM[6]---	(NA)	(NA)	(NA)	53.1	330.9	14.5	27.6	71.9	1 099.8	655.4	1 728.6	28.7	280.9	405.9	(NA)	(NA)
1963 Census--	936	993	256	46.8	280.7	11.8	23.4	59.5	995.7	582.3	1 534.6	25.4	253.9	362.4	93	88
INDUSTRY 2732, BOOK PRINTING																
1977 Census--	900	950	370	46.9	548.2	37.6	72.6	404.1	1 029.2	662.6	1 691.8	54.3	(NA)	194.0	85	78
1976 ASM----	(NA)	(NA)	(NA)	42.7	464.7	33.3	63.4	342.0	809.0	517.7	1 327.9	51.1	612.6	163.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	43.9	446.0	34.5	64.3	328.9	758.5	477.6	1 240.7	63.0	600.6	159.5	(NA)	(NA)
1974 ASM[6]---	(NA)	(NA)	(NA)	40.9	416.2	32.9	63.9	314.6	697.8	449.5	1 127.2	43.7	532.1	160.5	(NA)	(NA)
1973 ASM[6]---	(NA)	(NA)	(NA)	42.8	391.3	34.4	66.9	288.0	676.5	395.9	1 063.9	34.5	526.5	118.1	(NA)	(NA)
1972 Census--	672	700	287	40.9	361.2	33.0	64.5	269.0	604.5	332.4	937.7	33.9	490.6	99.4	83	73
1971 ASM----	(NA)	(NA)	(NA)	44.2	358.2	35.4	68.4	266.9	598.6	297.1	891.4	50.1	502.3	102.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	45.5	356.7	36.4	71.4	265.5	609.6	313.0	913.4	33.4	476.1	103.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	44.2	336.1	35.3	72.5	254.0	597.2	303.1	883.9	47.1	451.0	105.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	45.0	328.5	36.0	73.6	247.6	577.4	288.8	862.0	35.1	429.1	86.4	(NA)	(NA)
1967 Census--	720	744	316	44.7	297.9	36.7	73.4	227.9	510.9	273.0	787.4	45.9	410.2	68.4	81	70
1966 ASM----	(NA)	(NA)	(NA)	41.1	284.3	34.4	72.7	221.9	460.8	258.2	709.3	42.1	(NA)	74.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	38.7	255.5	32.0	67.6	198.6	411.2	227.5	632.7	38.2	(NA)	58.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	35.7	226.9	29.2	62.4	178.8	385.2	202.8	585.5	31.8	281.0	48.4	(NA)	(NA)
1963 Census--	662	683	275	36.1	214.2	29.6	59.6	164.6	358.3	190.0	546.6	24.9	249.1	48.0	78	69

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 2741, MISCELLANEOUS PUBLISHING															
1977 Census--	2 277	2 352	335	42.1	503.0	15.4	27.1	150.3	1 290.7	569.9	1 850.9	39.1	(NA)	139.1	95	89
1976 ASM[6] ---	(NA)	(NA)	(NA)	34.7	387.7	13.7	24.2	123.7	946.2	393.9	1 332.6	40.1	275.5	93.8	(NA)	(NA)
1975 ASM[6] ---	(NA)	(NA)	(NA)	33.5	362.3	12.8	21.8	107.3	862.3	334.0	1 192.4	38.1	237.9	81.2	(NA)	(NA)
1974 ASM[6] ---	(NA)	(NA)	(NA)	36.0	344.5	14.9	26.2	115.2	783.2	314.6	1 093.5	20.7	220.7	85.0	(NA)	(NA)
1973 ASM[6] ---	(NA)	(NA)	(NA)	38.3	335.4	18.7	32.9	130.3	790.4	302.8	1 088.9	20.1	234.6	75.7	(NA)	(NA)
1972 Census--	1 964	2 041	272	38.8	331.2	19.1	31.7	135.0	775.8	296.1	1 070.2	22.7	221.7	68.1	95	93
1971 ASM----	(NA)	(NA)	(NA)	31.4	251.0	13.5	25.1	101.0	554.9	211.1	764.2	19.9	153.3	55.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	32.5	246.5	15.5	27.7	105.6	523.4	203.9	724.0	16.7	137.5	51.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	36.3	248.9	18.0	30.4	102.0	495.4	232.2	726.9	13.0	126.9	52.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	33.7	226.3	16.5	28.1	94.0	442.9	217.6	656.9	12.4	118.1	50.1	(NA)	(NA)
1967 Census--	1 433	1 493	204	31.1	197.4	15.0	25.6	79.7	417.5	184.5	605.3	10.0	106.0	41.1	93	89
1966 ASM[6] ---	(NA)	(NA)	(NA)	24.3	156.3	11.2	20.4	58.0	321.2	176.9	495.2	6.1	(NA)	38.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	24.3	147.4	11.0	20.5	55.8	299.3	165.1	462.4	4.1	(NA)	33.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	23.0	137.9	9.8	18.5	49.0	282.3	144.8	424.9	5.9	60.2	28.0	(NA)	(NA)
1963 Census--	1 308	1 374	177	22.6	130.4	9.8	18.7	48.8	252.9	137.1	389.6	7.1	57.7	27.2	92	84

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2711, NEWSPAPERS											
1977 Census--	12 305	(NA)	42	1 714	7.15	27	60	(NA)	27 202	45	37.70
1976 ASM----	11 169	12 568	44	1 699	6.46	27	62	39	23 290	47	30.74
1975 ASM----	10 461	12 115	45	1 717	6.01	27	63	41	21 027	49	26.65
1974 ASM----	10 048	11 646	46	1 749	5.81	26	64	43	19 672	51	24.12
1973 ASM----	9 584	10 780	47	1 752	5.50	24	62	42	18 904	50	22.77
1972 Census--	9 090	10 441	48	1 758	5.15	24	63	44	17 847	50	20.84
1971 ASM----	8 281	9 361	47	1 836	4.66	24	63	44	15 983	51	18.33
1970 ASM----	7 778	8 896	48	1 836	4.35	25	64	44	14 880	52	16.81
1969 ASM----	7 251	8 382	50	1 772	4.09	26	64	44	13 948	51	15.63
1968 ASM----	6 997	8 351	50	1 785	3.91	27	65	45	13 350	52	14.91
1967 Census--	6 620	7 819	50	1 784	3.71	27	65	45	12 458	53	13.85
1966 ASM----	6 360	(NA)	50	1 870	3.48	27	65	(NA)	12 030	52	12.79
1965 ASM----	6 122	(NA)	51	1 813	3.43	28	67	(NA)	11 386	54	12.28
1964 ASM----	5 980	6 547	52	1 923	3.11	28	67	43	10 886	54	10.81
1963 Census--	5 824	6 378	52	1 839	3.17	28	68	43	10 450	55	10.87
INDUSTRY 2721, PERIODICALS											
1977 Census--	14 589	(NA)	15	1 922	5.65	37	54	(NA)	53 831	27	183.96
1976 ASM----	13 114	10 075	19	1 712	5.41	38	57	14	42 540	30	129.58
1975 ASM----	12 071	9 747	18	1 786	4.81	39	59	16	36 379	33	109.13
1974 ASM----	11 271	9 165	18	1 823	4.40	40	60	16	33 972	33	102.77
1973 ASM----	10 853	8 922	17	1 801	4.22	39	58	16	33 443	32	103.27
1972 Census--	10 654	8 839	16	1 900	4.00	39	60	16	31 727	33	99.99
1971 ASM----	9 577	9 204	19	1 882	3.97	38	59	20	28 092	34	78.46
1970 ASM----	9 072	8 184	19	2 013	3.77	37	59	19	25 765	35	66.66
1969 ASM----	8 551	7 961	18	1 818	3.62	39	60	19	24 888	34	72.78
1968 ASM----	8 295	7 870	20	1 763	3.18	39	59	19	24 529	33	68.73
1967 Census--	8 011	7 677	18	1 737	3.19	39	60	19	23 624	33	74.15
1966 ASM----	7 652	(NA)	20	1 891	2.95	38	58	(NA)	23 818	32	74.22
1965 ASM----	7 285	(NA)	20	1 889	2.99	39	58	(NA)	22 888	32	64.27
1964 ASM----	7 273	5 641	18	1 852	2.90	41	60	15	21 194	34	63.11
1963 Census--	6 810	5 113	18	1 796	2.96	41	61	15	19 926	34	61.04
INDUSTRY 2731, BOOK PUBLISHING											
1977 Census--	13 960	(NA)	22	1 866	5.62	32	49	(NA)	54 847	25	131.07
1976 ASM----	12 836	10 190	27	1 773	5.59	32	51	14	46 591	27	96.15
1975 ASM----	12 345	9 837	27	1 733	5.30	32	52	15	43 749	28	93.38
1974 ASM----	11 424	8 790	25	1 808	4.75	33	51	14	42 492	26	90.65
1973 ASM----	10 310	8 777	26	1 792	4.75	33	53	16	35 229	29	73.17
1972 Census--	9 765	8 964	28	1 938	4.09	34	53	17	33 902	29	61.65
1971 ASM----	8 943	7 619	29	1 913	3.93	32	52	16	31 370	28	56.42
1970 ASM----	8 619	7 520	26	2 020	3.54	33	53	17	29 529	29	55.75
1969 ASM----	8 102	6 093	25	1 866	3.39	34	53	14	27 714	29	58.98
1968 ASM----	7 670	6 429	26	1 862	3.18	33	52	15	26 337	29	53.18
1967 Census--	7 498	6 492	25	1 864	3.08	35	53	15	28 011	26	58.73
1966 ASM----	6 662	(NA)	22	1 934	2.58	37	55	(NA)	24 550	27	56.17
1965 ASM----	6 398	(NA)	22	1 973	2.46	38	56	(NA)	22 125	28	49.12
1964 ASM----	6 231	5 290	27	1 903	2.60	37	57	16	20 711	30	39.84
1963 Census--	5 996	5 430	25	1 986	2.54	38	56	17	21 271	28	42.46
INDUSTRY 2732, BOOK PRINTING											
1977 Census--	11 680	(NA)	80	1 932	5.56	39	71	(NA)	21 927	53	14.17
1976 ASM----	10 882	14 346	77	1 903	5.39	38	73	46	18 946	57	12.76
1975 ASM----	10 159	13 681	78	1 863	5.11	38	74	48	17 277	58	11.79
1974 ASM----	10 176	13 009	80	1 942	4.92	39	76	47	17 061	59	10.92
1973 ASM----	9 142	12 301	80	1 944	4.30	37	73	49	15 806	57	10.11
1972 Census--	8 831	11 995	80	1 954	4.17	35	73	52	14 779	59	9.37
1971 ASM----	8 104	11 364	80	1 932	3.90	33	73	56	13 542	59	8.75
1970 ASM----	7 846	10 464	80	1 960	3.74	34	73	52	13 409	59	8.51
1969 ASM----	7 604	10 203	79	2 053	3.50	34	72	51	13 511	56	8.23
1968 ASM----	7 300	9 535	80	2 044	3.36	33	71	49	12 831	56	7.84
1967 Census--	6 664	9 176	82	2 000	3.10	34	72	52	11 429	58	6.96
1966 ASM----	6 917	(NA)	83	2 113	3.05	36	76	(NA)	11 211	61	6.33
1965 ASM----	6 602	(NA)	82	2 112	2.93	35	76	(NA)	10 625	62	6.08
1964 ASM----	6 355	7 871	81	2 136	2.86	34	73	47	10 789	58	6.17
1963 Census--	5 933	6 900	81	2 013	2.76	34	73	45	9 925	59	6.01

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2741, MISCELLANEOUS PUBLISHING										
1977 Census--	11 936	(NA)	36	1 759	5.54	30	57	(NA)	30 631	38	47.62
1976 ASM----	11 172	7 939	39	1 766	5.11	29	58	20	27 268	40	39.09
1975 ASM----	10 814	7 101	38	1 703	4.92	28	58	19	25 740	42	39.55
1974 ASM----	9 569	6 130	41	1 758	4.39	28	60	20	21 755	43	29.89
1973 ASM----	8 757	6 125	48	1 759	3.96	27	58	21	20 637	42	24.02
1972 Census--	8 536	5 713	49	1 659	4.25	27	58	20	19 994	42	24.47
1971 ASM----	7 993	4 882	42	1 859	4.02	27	60	20	17 671	45	22.10
1970 ASM----	7 584	4 230	47	1 787	3.81	28	62	18	16 104	47	18.89
1969 ASM----	6 856	3 495	49	1 688	3.35	31	66	17	13 647	50	16.29
1968 ASM----	6 715	3 504	48	1 703	3.34	33	67	17	13 142	51	15.76
1967 Census--	6 347	3 408	48	1 706	3.11	30	63	17	13 424	47	16.30
1966 ASM----	6 432	(NA)	46	1 821	2.84	35	67	(NA)	13 218	48	15.74
1965 ASM----	6 065	(NA)	45	1 863	2.72	35	67	(NA)	12 316	49	14.60
1964 ASM----	5 995	2 617	42	1 887	2.64	34	66	14	12 273	48	15.25
1963 Census--	5 769	2 553	43	1 908	2.60	35	68	14	11 190	51	13.52

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2711, NEWSPAPERS													
United States	-	[5]8 867	2 147	349.9	4 306.0	147.2	252.5	1 805.3	9 519.1	3 539.2	13 055.9	478.1	348.5	6 219.9
New England Division:														
Maine	E1	55	11	1.9	22.0	0.9	1.5	9.9	41.4	11.8	53.1	3.4	1.9	26.1
New Hampshire	E1	43	17	1.3	15.2	0.5	1.0	6.8	28.4	7.1	35.5	1.5	1.4	19.5
Vermont	-	45	10	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	11.6
Massachusetts	-	210	61	12.5	166.7	4.7	7.8	62.6	360.1	99.7	459.7	14.9	13.2	249.2
Rhode Island	-	25	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.9	36.2
Connecticut	-	92	34	6.1	68.4	2.6	4.7	28.1	140.5	54.2	194.6	7.2	6.4	98.2
Middle Atlantic Division:														
New York	-	520	134	30.3	484.7	14.5	23.4	237.1	956.7	382.7	1 339.3	51.4	33.0	686.2
New Jersey	-	221	61	11.8	131.1	3.6	6.0	44.0	293.7	108.6	402.2	13.4	11.2	215.3
Pennsylvania	-	318	113	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	23.0	372.8
East North Central Division:														
Ohio	-	336	121	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	19.2	346.7
Indiana	-	227	72	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	9.3	151.9
Illinois	-	433	121	21.0	263.7	9.3	15.2	115.3	556.5	229.5	786.1	31.4	22.3	417.7
Michigan	-	310	70	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	13.3	277.5
Wisconsin	-	261	57	8.3	88.6	3.1	5.5	35.0	196.9	69.4	266.1	9.8	8.5	129.0
West North Central Division:														
Minnesota	-	318	42	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.9	120.3
Iowa	-	306	54	5.6	56.2	2.4	4.0	21.4	133.7	39.2	172.9	9.0	5.6	85.7
Missouri	-	314	49	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	8.2	151.6
North Dakota	E1	81	12	1.2	12.7	0.6	1.1	6.3	25.7	8.7	34.4	1.9	1.0	14.8
South Dakota	E1	112	15	1.0	10.2	0.5	1.0	4.9	24.9	7.0	31.9	0.5	1.1	16.0
Nebraska	-	164	28	2.8	28.6	1.4	2.3	12.4	71.2	26.4	97.6	3.1	3.0	47.2
Kansas	E1	215	37	3.5	35.9	1.8	3.0	16.8	84.5	25.0	109.5	4.0	3.6	49.4
South Atlantic Division:														
Delaware	-	17	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Maryland	-	85	24	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	5.2	87.0
District of Columbia	-	29	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Virginia	-	127	47	6.5	70.4	2.8	4.9	27.4	143.6	57.8	201.4	7.7	6.4	93.7
West Virginia	-	95	21	2.6	26.3	1.4	2.4	13.2	63.5	18.1	81.6	2.8	FF	(D)
North Carolina	-	189	65	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.7	106.3
South Carolina	-	93	25	3.1	31.1	1.1	1.9	9.2	76.8	22.8	99.5	5.1	2.6	43.0
Georgia	-	198	37	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	5.4	102.1
Florida	-	261	65	15.8	179.3	5.5	10.3	58.6	473.4	183.3	656.5	24.1	14.0	267.1
East South Central Division:														
Kentucky	-	160	29	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.6	61.1
Tennessee	-	152	33	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.1	90.8
Alabama	-	143	30	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.4	64.2
Mississippi	-	122	26	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.1	29.1
West South Central Division:														
Arkansas	E1	134	30	2.8	26.6	1.3	2.2	10.7	60.3	20.4	80.6	3.6	2.4	35.6
Louisiana	-	152	28	4.2	45.7	2.0	3.5	20.9	117.6	51.6	169.4	4.6	4.2	73.1
Oklahoma	-	204	39	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	4.5	68.0
Texas	-	607	103	19.2	200.8	7.5	13.3	77.6	506.7	207.1	713.8	26.2	17.6	298.9
Mountain Division:														
Montana	E1	86	16	1.2	13.0	0.4	0.7	4.5	34.5	8.3	42.8	1.7	1.1	18.0
Idaho	E1	67	10	1.4	12.9	0.6	0.9	5.9	30.9	9.3	40.2	3.0	1.2	17.8
Wyoming	E1	44	9	0.6	6.0	0.3	0.5	2.6	14.1	3.7	17.8	(D)	0.6	8.5
Colorado	-	158	37	4.6	60.2	2.4	4.3	31.2	123.7	52.4	176.1	6.6	4.9	80.1
New Mexico	-	56	17	1.8	17.6	0.6	1.2	6.5	45.0	12.5	57.6	1.2	1.3	23.2
Arizona	-	67	20	3.9	44.4	1.4	2.5	17.9	106.3	39.0	145.3	2.8	3.5	70.7
Utah	-	45	11	1.8	19.1	0.6	1.1	7.0	44.6	16.2	60.7	2.7	1.1	20.2
Nevada	-	38	8	1.0	10.4	0.6	1.1	6.5	30.3	9.9	40.1	1.1	1.0	18.6
Pacific Division:														
Washington	-	158	39	6.6	94.7	2.9	4.4	40.8	187.3	62.3	249.6	8.0	6.5	110.2
Oregon	-	117	28	3.8	43.9	1.4	2.4	16.3	100.1	39.5	139.6	5.6	3.6	62.4
California	-	608	199	34.4	444.4	13.1	23.0	179.7	1 050.9	402.0	1 452.5	42.0	33.3	654.7
Alaska	E1	24	5	0.6	7.8	0.3	0.5	3.8	14.9	5.0	19.8	(D)	BB	(D)
Hawaii	-	25	12	1.5	21.0	0.6	0.9	8.2	67.2	15.5	82.7	0.5	EE	(D)
Industry 2711-11, Daily														
United States	(NA)	[5]1 467	1 319	275.6	3 558.7	112.0	193.1	1 497.6	7 972.1	2 922.1	10 893.6	396.7	283.9	5 393.9
New England Division:														
Maine	-	6	6	1.4	17.3	0.6	1.1	7.8	32.2	8.7	40.9	3.0	1.5	21.9
New Hampshire	-	8	8	0.9	11.4	0.3	0.6	5.2	21.4	4.6	26.0	1.2	0.9	15.2
Vermont	-	8	8	0.7	6.0	0.4	0.6	3.0	14.3	3.6	17.8	1.8	0.6	9.8
Massachusetts	-	46	40	10.9	151.0	4.0	6.7	56.8	326.2	89.4	415.5	13.8	11.2	223.5
Rhode Island	-	7	6	1.5	24.0	0.7	1.1	10.2	45.2	15.3	60.5	1.9	1.8	33.4
Connecticut	-	23	20	4.9	56.2	2.1	3.8	23.6	116.1	46.4	162.5	6.5	5.3	86.6
Middle Atlantic Division:														
New York	-	74	63	24.5	419.1	11.8	18.8	213.6	819.8	324.6	1 144.4	46.1	28.1	622.9
New Jersey	-	22	22	8.0	94.5	2.1	3.3	30.2	214.0	80.9	294.8	8.1	8.6	182.2
Pennsylvania	-	87	81	19.1	246.1	8.3	14.2	106.6	465.1	179.0	644.1	31.1	19.5	326.4
East North Central Division:														
Ohio	-	85	82	15.6	211.3	7.1	13.1	101.6	492.1	164.8	657.0	22.0	16.8	318.7
Indiana	-	61	52	7.4	88.5	3.0	5.0	37.4	191.4	61.8	253.2	9.3	7.6	127.9
Illinois	-	78	65	15.4	207.6	6.6	10.8	91.4	446.3	181.1	627.5	26.0	16.9	345.5
Michigan	-	51	47	10.1	145.8	3.9	6.6	55.7	314.8	131.3	446.1	23.6	10.7	227.7
Wisconsin	-	34	32	6.1	69.6	1.9	3.5	26.3	157.9	54.0	211.8	7.5	6.6	104.5

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 2711-11, Daily—Con.													
West North Central Division:													
Minnesota	–	24	23	5.0	71.0	2.1	3.5	32.6	148.9	45.7	194.6	5.8	5.0	96.6
Iowa	–	36	34	4.1	42.4	1.6	2.7	15.1	105.1	29.1	134.2	7.8	4.1	68.1
Missouri	–	40	31	5.8	78.7	2.8	4.5	37.4	164.7	66.9	231.6	5.1	6.5	127.4
North Dakota	–	10	10	0.9	10.0	0.5	0.8	5.1	19.9	6.2	26.1	1.6	0.8	12.5
South Dakota	–	11	11	0.7	7.0	0.4	0.7	3.4	17.9	4.5	22.4	0.3	0.7	11.7
Nebraska	–	16	15	1.9	20.3	0.9	1.6	8.5	54.1	19.5	73.7	2.5	2.1	37.2
Kansas	–	39	31	2.7	27.8	1.3	2.2	12.7	61.3	18.5	79.8	3.2	2.7	39.4
South Atlantic Division:														
Delaware	–	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Maryland	–	11	9	3.9	55.8	1.7	2.8	21.0	107.4	40.2	147.5	2.8	3.9	74.0
District of Columbia	–	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Virginia	–	18	17	4.4	50.3	1.7	3.0	18.2	108.6	39.7	148.3	3.8	5.0	78.5
West Virginia	–	16	14	1.5	14.1	0.8	1.5	7.8	35.4	8.7	44.1	1.7	EE	(D)
North Carolina	–	41	41	5.6	60.6	2.3	4.4	23.8	139.3	46.6	185.9	4.5	5.3	91.7
South Carolina	–	15	15	2.4	25.1	0.8	1.4	6.8	64.6	19.1	83.7	4.5	2.1	36.6
Georgia	–	23	22	4.5	50.8	1.8	3.4	21.7	127.1	47.5	174.6	7.4	4.4	90.2
Florida	–	47	42	13.8	154.2	4.7	8.6	50.1	406.3	155.2	561.3	20.9	12.1	243.3
East South Central Division:														
Kentucky	–	22	20	2.8	38.8	1.1	2.0	13.4	75.0	33.8	108.8	4.7	2.7	49.6
Tennessee	–	23	21	5.8	55.6	1.9	3.5	19.2	136.3	43.3	179.6	10.8	5.4	81.6
Alabama	–	19	17	2.6	29.5	1.0	1.8	11.8	84.0	24.8	108.7	7.1	2.7	54.2
Mississippi	–	19	19	1.8	17.2	0.8	1.4	5.6	43.4	13.8	57.2	3.1	1.5	22.2
West South Central Division:														
Arkansas	–	26	22	1.9	19.3	0.9	1.6	7.4	44.2	14.2	58.4	2.5	1.8	28.4
Louisiana	–	18	17	3.3	37.6	1.6	2.9	17.5	100.2	44.8	145.0	3.6	3.4	63.6
Oklahoma	–	46	33	3.8	38.9	1.8	3.0	16.5	86.8	32.1	118.8	5.0	3.9	59.8
Texas	–	90	79	16.2	172.2	6.0	10.8	65.0	443.8	184.0	627.8	23.6	15.4	271.1
Mountain Division:														
Montana	–	11	11	0.9	9.8	0.3	0.5	3.3	27.7	5.9	33.5	(D)	CC	(D)
Idaho	–	9	9	1.1	10.3	0.5	0.7	4.7	25.9	7.3	33.2	2.8	0.7	10.5
Wyoming	–	9	9	0.5	4.2	0.2	0.3	1.7	10.8	2.6	13.5	0.3	0.3	5.2
Colorado	–	26	21	3.2	47.3	1.8	3.2	25.7	100.7	42.2	142.9	5.1	3.9	58.2
New Mexico	–	13	11	1.2	11.9	0.4	0.8	4.3	30.9	8.7	39.6	0.7	1.0	19.7
Arizona	–	12	11	3.2	38.2	1.1	2.0	15.6	92.9	34.5	127.4	1.4	2.9	64.0
Utah	–	8	6	1.4	16.4	0.4	0.8	5.7	39.4	13.9	53.3	2.4	0.9	17.3
Nevada	–	7	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pacific Division:														
Washington	–	23	23	5.3	82.0	2.3	3.4	35.6	161.3	52.6	213.9	6.9	5.2	93.1
Oregon	–	17	17	2.7	34.4	0.9	1.6	12.4	79.5	30.5	110.0	4.6	2.6	50.9
California	–	119	108	26.7	360.3	9.8	17.5	147.4	895.7	338.2	1 233.8	31.2	27.0	570.0
Hawaii	–	7	7	1.2	17.4	0.5	0.8	7.2	60.7	12.5	73.2	0.2	EE	(D)
Industry 2711-13, Weekly and Others														
United States	(NA)	[5]7 399	828	74.3	747.3	35.3	59.4	307.6	1 546.9	617.1	2 162.1	81.4	65.1	831.6
New England Division:														
Maine	E4	49	5	0.5	4.7	0.3	0.5	2.2	9.1	3.2	12.2	0.4	0.4	4.3
New Hampshire	E5	35	9	0.4	3.7	0.2	0.3	1.6	7.0	2.5	9.5	0.3	0.5	4.3
Vermont	E4	37	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	E3	164	21	1.6	15.6	0.8	1.2	5.7	33.9	10.3	44.2	1.0	2.0	25.6
Rhode Island	E3	18	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.7
Connecticut	E3	69	14	1.3	12.2	0.6	0.9	4.6	24.4	7.8	32.1	0.7	1.0	11.5
Middle Atlantic Division:														
New York	E2	445	71	5.8	65.7	2.7	4.6	23.5	136.8	58.1	194.7	5.4	4.9	63.3
New Jersey	E1	199	39	3.7	36.6	1.5	2.7	13.8	79.7	27.7	107.4	5.3	2.7	33.1
Pennsylvania	E2	231	32	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.5	46.3
East North Central Division:														
Ohio	E2	251	39	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.4	28.1
Indiana	E2	166	20	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	24.1
Illinois	E1	355	56	5.6	56.1	2.7	4.4	23.8	110.2	48.5	158.6	5.3	5.3	72.2
Michigan	E2	259	23	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.5	49.8
Wisconsin	E2	227	25	2.1	19.0	1.1	2.0	8.7	39.0	15.5	54.3	2.3	2.0	24.4
West North Central Division:														
Minnesota	E3	294	19	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.9	23.7
Iowa	E4	270	20	1.5	13.8	0.8	1.2	6.3	28.6	10.2	38.7	1.2	1.5	17.6
Missouri	E2	274	18	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	24.2
North Dakota	E6	71	2	0.3	2.6	0.1	0.3	1.2	5.8	2.5	8.2	0.3	0.2	2.4
South Dakota	E5	101	4	0.3	3.2	0.2	0.3	1.5	7.0	2.4	9.5	0.2	0.4	4.2
Nebraska	E2	148	13	0.9	8.3	0.5	0.7	3.9	17.1	6.8	23.9	0.6	0.9	9.9
Kansas	E4	176	6	0.8	8.1	0.5	0.8	4.1	23.2	6.5	29.7	0.8	0.9	9.9
South Atlantic Division:														
Maryland	E1	74	15	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.3	13.1
District of Columbia	–	26	2	0.7	6.9	0.1	0.1	0.3	17.2	8.6	25.3	0.4	(NA)	(NA)
Virginia	E1	109	30	2.1	20.1	1.2	1.9	9.3	35.0	18.1	53.1	4.0	1.4	15.2
West Virginia	E1	79	7	1.2	12.1	0.6	0.9	5.4	28.1	9.4	37.4	1.2	BB	(D)
North Carolina	E2	148	24	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.4	14.6
South Carolina	E2	78	10	0.6	6.1	0.3	0.5	2.4	12.1	3.7	15.9	0.6	0.6	6.4
Georgia	E4	175	15	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.0	11.9
Florida	E1	214	23	2.0	25.1	0.8	1.7	8.4	67.1	28.1	95.2	3.2	1.8	23.8
East South Central Division:														
Kentucky	E4	138	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	11.4
Tennessee	E3	129	12	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	9.2
Alabama	E3	124	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	10.0
Mississippi	E3	103	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	6.8

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 2711-13, Weekly and Others—Con.														
West South Central Division:														
Arkansas	E4	108	8	0.9	7.3	0.4	0.7	3.3	16.1	6.1	22.2	1.1	0.6	7.2
Louisiana	E3	134	11	0.9	8.2	0.4	0.7	3.3	17.4	6.8	24.3	1.1	0.9	9.5
Oklahoma	E4	158	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	8.2
Texas	E4	517	24	2.9	28.6	1.5	2.5	12.5	62.9	23.1	86.1	2.6	2.5	33.3
Mountain Division:														
Montana	E5	75	5	0.3	3.2	0.2	0.2	1.2	6.9	2.4	9.3	(D)	BB	(D)
Idaho	E6	58	1	0.3	2.6	0.1	0.2	1.2	5.0	1.9	7.0	0.2	0.5	7.3
Wyoming	E6	35	–	0.2	1.8	0.1	0.2	0.9	3.3	1.0	4.3	(D)	0.3	3.3
Colorado	E3	132	16	1.3	12.8	0.6	1.1	5.6	23.0	10.2	33.2	1.5	1.1	12.0
New Mexico	E1	43	6	0.6	5.8	0.2	0.4	2.2	14.2	3.8	18.0	0.5	0.3	3.5
Arizona	E2	55	9	0.7	6.2	0.3	0.5	2.4	13.4	4.5	17.9	1.4	0.6	6.7
Utah	E2	37	5	0.3	2.7	0.2	0.3	1.3	5.2	2.2	7.4	0.3	0.2	2.8
Nevada	E3	31	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
Washington	E4	135	16	1.3	12.7	0.6	1.0	5.2	25.9	9.7	35.7	1.1	1.3	17.1
Oregon	E2	100	11	1.1	9.5	0.5	0.7	3.9	20.6	9.1	29.7	1.0	1.0	11.4
California	E2	489	91	7.7	84.1	3.3	5.5	32.3	155.2	63.7	218.7	10.8	6.2	84.7
Alaska	E1	22	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Hawaii	–	18	5	0.3	3.6	0.1	0.2	1.1	6.5	3.0	9.5	0.3	BB	(D)
INDUSTRY 2721, PERIODICALS														
United States	–	**[5]2 994**	**525**	**69.9**	**1 019.8**	**10.6**	**20.5**	**115.7**	**3 762.7**	**2 289.2**	**6 056.5**	**78.9**	**66.5**	**2 109.9**
New England Division:														
New Hampshire	–	18	5	0.3	3.1	0.2	0.2	1.1	6.3	11.9	18.1	0.1	0.2	4.6
Massachusetts	–	107	17	1.5	23.0	0.3	0.6	2.9	71.4	35.6	106.9	0.8	0.8	18.2
Connecticut	E1	72	16	0.8	13.5	0.1	0.3	0.9	36.6	18.3	59.4	0.4	1.8	53.2
Middle Atlantic Division:														
New York	–	568	145	28.8	477.9	2.1	4.0	31.5	2 004.7	1 198.8	3 196.5	24.5	26.0	1 069.4
New Jersey	E1	111	17	1.2	14.6	0.3	0.6	2.7	39.7	26.8	66.4	1.6	EE	(D)
Pennsylvania	–	102	18	4.1	48.4	0.7	1.3	6.5	279.7	180.5	459.6	1.5	FF	(D)
East North Central Division:														
Ohio	–	80	21	2.9	33.5	0.6	1.2	7.8	128.2	55.2	181.9	2.2	3.0	84.8
Indiana	E1	34	9	0.6	5.6	0.2	0.2	1.1	10.1	11.4	21.1	0.5	0.5	8.6
Illinois	E1	238	62	6.4	93.7	1.1	2.4	12.9	287.5	183.8	471.0	24.9	6.7	198.1
Michigan	E1	64	12	0.6	9.5	0.2	0.3	1.2	24.5	12.2	36.7	0.9	0.6	13.2
Wisconsin	E1	58	9	0.6	7.6	0.2	0.3	1.8	19.5	10.7	29.9	0.2	0.7	15.8
West North Central Division:														
Minnesota	–	55	10	1.2	15.7	0.2	0.3	1.8	39.8	16.7	57.8	(D)	0.9	25.6
Iowa	–	29	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.8	34.2
Missouri	–	67	14	1.8	19.5	0.7	1.3	6.3	40.7	22.6	62.6	0.8	2.9	46.8
Kansas	E1	27	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	4.7
South Atlantic Division:														
Maryland	E1	46	5	0.5	6.3	0.1	0.1	1.0	13.0	3.5	23.1	0.4	1.8	39.0
District of Columbia	–	67	20	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.0	90.9
Virginia	E3	59	2	0.2	3.2	(Z)	0.1	0.3	8.5	5.2	13.7	0.1	0.2	3.7
North Carolina	E1	38	5	0.3	4.3	0.1	0.2	1.1	13.0	6.9	19.8	0.2	AA	(D)
Georgia	E1	44	6	0.5	6.6	0.2	0.4	1.8	18.4	4.8	23.0	0.2	0.2	6.9
Florida	E2	130	7	0.7	7.6	0.2	0.3	1.5	22.4	12.1	34.5	0.3	0.4	18.4
East South Central Division:														
Kentucky	E3	21	2	0.2	2.0	(Z)	0.1	0.4	4.7	3.3	8.0	0.1	0.3	3.2
Tennessee	–	41	11	2.2	25.1	0.4	0.7	3.6	43.5	24.4	68.2	3.1	2.2	31.1
West South Central Division:														
Oklahoma	E1	30	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Texas	E1	138	14	1.6	21.6	0.2	0.5	2.2	47.2	36.9	84.1	0.6	CC	(D)
Mountain Division:														
Colorado	E2	52	8	0.7	8.9	0.3	0.6	3.2	23.8	10.6	34.4	0.9	0.5	13.4
Pacific Division:														
Washington	E2	47	8	0.4	5.1	0.2	0.3	1.7	13.7	3.9	17.4	0.1	0.2	4.7
California	E1	416	56	4.6	63.4	1.1	2.1	11.0	218.2	128.5	351.0	5.5	3.8	97.8
Industry 2721-11, Publishing Only														
United States	(NA)	**[5]2 595**	**421**	**58.9**	**878.7**	**6.8**	**13.5**	**77.6**	**3 407.0**	**2 173.1**	**5 586.0**	**69.7**	**53.1**	**1 857.0**
New England Division:														
New Hampshire	–	16	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Massachusetts	–	92	16	1.4	21.8	0.2	0.4	2.4	68.4	34.6	103.0	0.8	0.6	15.4
Connecticut	E1	67	14	0.7	11.9	(Z)	0.2	0.6	34.1	17.8	56.4	0.4	EE	(D)
Middle Atlantic Division:														
New York	–	513	131	26.6	443.3	1.6	3.3	26.1	1 886.6	1 162.9	3 042.4	22.7	24.2	1 033.8
New Jersey	E1	95	14	0.9	11.4	0.3	0.5	2.3	32.2	23.1	55.1	(D)	EE	(D)
Pennsylvania	–	90	16	3.8	44.8	0.6	1.0	5.5	270.7	176.8	446.9	(D)	EE	(D)
East North Central Division:														
Ohio	–	66	15	2.2	24.5	0.2	0.5	3.0	89.5	45.5	133.8	1.5	1.6	50.1
Indiana	E2	26	4	0.4	3.5	(Z)	(Z)	0.1	6.2	10.0	15.9	(D)	0.3	6.8
Illinois	E1	210	54	6.0	88.0	0.9	2.0	10.7	276.6	179.1	455.7	(D)	5.8	181.7
Michigan	E1	55	10	0.5	8.1	0.1	0.2	0.6	22.1	11.1	33.1	0.5	0.3	9.4
Wisconsin	E1	45	4	0.3	4.1	0.1	0.1	0.5	10.6	7.9	18.3	0.2	0.4	9.5

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 2721-11, Publishing Only—Con.														
West North Central Division:														
Minnesota	–	45	10	1.2	14.9	0.1	0.3	1.6	38.8	16.2	56.2	(D)	CC	(D)
Iowa	–	23	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Missouri	E1	56	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	16.1
Kansas	E1	22	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Atlantic Division:														
Maryland	E1	40	3	0.4	4.9	(Z)	(Z)	0.4	11.2	3.0	20.8	0.1	EE	(D)
District of Columbia	–	59	17	2.2	34.7	0.2	0.3	1.7	165.6	116.5	280.9	2.5	2.9	87.6
Virginia	E4	48	1	0.2	2.5	(Z)	(Z)	0.2	7.3	4.8	12.1	0.1	AA	(D)
North Carolina	–	28	2	0.2	3.3	(Z)	0.1	0.7	9.9	5.9	15.7	0.2	AA	(D)
Georgia	E2	37	4	0.3	4.7	0.1	0.1	0.8	13.5	3.2	16.5	(D)	AA	(D)
Florida	E2	116	3	0.5	5.5	0.1	0.2	0.9	18.2	10.3	28.4	0.2	BB	(D)
East South Central Division:														
Kentucky	E3	18	2	0.2	1.8	(Z)	0.1	0.3	4.5	3.2	7.6	0.1	AA	(D)
Tennessee	–	35	7	2.0	23.6	0.3	0.6	2.9	40.1	22.8	63.3	(D)	EE	(D)
West South Central Division:														
Texas	E1	117	8	1.2	18.0	0.1	0.2	0.9	39.5	31.9	71.4	0.5	CC	(D)
Mountain Division:														
Colorado	E1	42	4	0.3	4.8	0.1	0.2	0.8	13.9	8.1	22.1	(D)	BB	(D)
Pacific Division:														
Washington	E2	40	5	0.3	3.6	0.1	0.2	1.2	11.1	3.1	14.0	0.1	AA	(D)
California	E1	363	48	3.9	55.0	0.8	1.5	7.7	193.1	121.2	318.6	4.3	3.0	84.3
Industry 2721-13, Publishing and Printing														
United States	(NA)	[5]398	104	11.0	141.0	3.9	7.0	38.0	355.6	116.0	470.2	9.1	13.6	257.5
Middle Atlantic Division:														
New York	–	54	14	2.2	34.6	0.5	0.7	5.4	117.9	35.7	153.8	1.8	1.9	40.3
New Jersey	E1	16	3	0.3	3.2	0.1	0.1	0.4	7.6	3.7	11.3	(D)	BB	(D)
Pennsylvania	–	12	2	0.3	3.5	0.1	0.2	1.0	9.0	3.7	12.8	(D)	EE	(D)
East North Central Division:														
Ohio	–	14	6	0.7	9.0	0.4	0.7	4.8	38.8	9.7	48.2	0.6	1.3	34.6
Indiana	–	8	5	0.2	2.2	0.1	0.2	1.0	3.9	1.4	5.2	(D)	0.2	1.8
Illinois	E4	28	8	0.5	5.6	0.2	0.4	2.2	10.8	4.7	15.4	(D)	0.9	16.4
Wisconsin	E1	13	5	0.3	3.6	0.1	0.2	1.3	8.8	2.8	11.6	0.1	0.4	6.3
West North Central Division:														
Iowa	–	6	3	0.3	2.9	0.1	0.2	1.2	9.7	2.2	11.8	(D)	BB	(D)
Missouri	–	11	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.3	30.6
South Atlantic Division:														
District of Columbia	–	8	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	3.3
Georgia	–	7	2	0.2	1.9	0.2	0.3	1.0	4.9	1.6	6.5	(D)	AA	(D)
Florida	E4	14	4	0.2	2.1	0.1	0.1	0.6	4.2	1.9	6.1	0.1	AA	(D)
East South Central Division:														
Tennessee	–	6	4	0.2	1.5	0.1	0.2	0.7	3.4	1.5	4.9	(D)	CC	(D)
West South Central Division:														
Oklahoma	–	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Texas	E1	21	6	0.3	3.6	0.1	0.3	1.3	7.7	5.0	12.7	0.1	AA	(D)
Mountain Division:														
Colorado	E2	10	4	0.4	4.1	0.2	0.5	2.3	9.9	2.5	12.4	(D)	AA	(D)
Pacific Division:														
California	E1	53	8	0.7	8.5	0.3	0.6	3.3	25.1	7.3	32.4	1.2	0.8	13.5
INDUSTRY 2731, BOOK PUBLISHING														
United States	–	1 745	346	59.5	830.2	13.3	24.9	140.1	3 261.9	1 544.2	4 793.9	79.8	57.1	1 935.8
New England Division:														
Massachusetts	–	81	20	3.9	53.4	0.4	0.7	4.6	226.9	109.7	333.5	5.7	3.2	97.0
Connecticut	–	40	6	0.5	7.9	(Z)	0.1	0.2	22.2	7.9	29.6	1.3	BB	(D)
Middle Atlantic Division:														
New York	–	424	112	21.8	328.8	2.1	4.6	24.1	1 483.0	699.9	2 198.7	30.2	22.7	951.6
New Jersey	–	84	18	2.5	31.2	0.6	1.1	5.9	89.5	50.9	141.8	(D)	2.3	65.5
Pennsylvania	–	49	14	3.1	40.7	1.3	2.2	15.0	107.8	56.4	162.8	1.6	2.9	59.2
East North Central Division:														
Ohio	–	36	10	2.4	31.9	0.7	1.6	8.2	146.4	53.7	197.8	2.8	2.9	84.6
Indiana	–	23	8	1.0	14.5	0.2	0.4	3.4	34.8	19.8	52.5	(D)	CC	(D)
Illinois	–	122	34	6.5	91.9	0.9	1.8	8.4	429.7	180.8	607.3	9.7	7.9	346.3
Michigan	–	35	6	0.7	7.4	0.1	0.3	1.5	29.7	21.8	49.3	0.4	CC	(D)
Wisconsin	–	33	7	1.4	17.5	0.7	1.2	8.1	40.3	28.1	67.8	1.1	0.4	8.1
West North Central Division:														
Minnesota	–	32	8	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Iowa	–	11	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Missouri	–	25	6	0.9	10.5	0.2	0.4	3.2	31.1	20.8	51.1	1.2	0.7	19.4

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2731, BOOK PUBLISHING—Con.														
South Atlantic Division:														
Maryland	-	31	5	0.9	9.8	0.4	0.7	1.2	22.5	14.8	36.8	2.2	0.3	5.1
District of Columbia	E1	20	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	8.6
Virginia	E1	23	4	0.8	12.6	0.4	0.7	3.7	134.8	44.2	177.5	0.5	0.4	4.7
North Carolina	-	18	1	0.2	2.6	(Z)	(Z)	0.1	8.6	4.0	12.3	(D)	(NA)	(NA)
Georgia	E1	20	2	0.3	3.8	0.1	0.2	1.2	9.0	4.0	12.7	0.2	(NA)	(NA)
Florida	E2	60	6	0.5	5.8	0.1	0.2	1.1	20.2	7.3	26.8	0.3	(NA)	(NA)
East South Central Division:														
Kentucky	-	7	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Tennessee	-	23	6	0.8	11.3	0.2	0.4	1.7	33.8	31.2	63.8	4.6	BB	(D)
West South Central Division:														
Oklahoma	-	6	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E2	58	9	0.9	9.7	0.2	0.4	1.7	30.6	18.8	49.1	0.8	BB	(D)
Mountain Division:														
Colorado	E1	23	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California	E1	295	39	4.0	54.5	0.9	1.7	9.9	159.9	82.9	236.2	6.5	FF	(D)
Industry 2731-11, Publishing Only														
United States	(NA)	**1 426**	**273**	**43.1**	**605.0**	**6.1**	**11.5**	**58.6**	**2 729.7**	**1 319.2**	**4 049.9**	**59.8**	**41.7**	**1 581.4**
New England Division:														
Massachusetts	-	65	15	3.2	44.6	0.3	0.5	3.4	196.4	102.8	300.6	5.3	2.2	62.0
Connecticut	-	34	6	0.5	7.8	(Z)	0.1	0.1	21.9	7.8	29.1	1.3	BB	(D)
Middle Atlantic Division:														
New York	-	356	96	17.6	261.8	1.2	2.7	13.0	1 351.7	638.1	2 008.8	23.3	19.8	852.1
New Jersey	-	75	16	2.3	27.9	0.4	0.8	4.4	80.7	47.3	129.6	(D)	1.9	54.7
Pennsylvania	-	36	8	1.1	16.3	0.3	0.6	4.1	45.1	34.2	78.9	0.5	1.3	30.0
East North Central Division:														
Ohio	-	31	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	44.2
Indiana	-	19	7	1.0	14.3	0.2	0.4	3.3	34.4	19.4	51.8	0.4	CC	(D)
Illinois	-	105	29	6.0	84.6	0.7	1.4	5.9	414.5	177.7	589.1	9.6	7.3	333.6
Michigan	-	29	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Wisconsin	E1	25	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West North Central Division:														
Minnesota	-	28	6	0.8	10.4	0.5	0.8	5.4	24.5	16.5	40.7	0.6	BB	(D)
Iowa	-	10	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Missouri	-	15	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	18.0
South Atlantic Division:														
Maryland	-	25	5	0.9	9.6	0.4	0.7	1.1	22.0	14.5	36.0	(D)	AA	(D)
Virginia	E1	16	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
North Carolina	-	16	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Georgia	E1	18	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Florida	E3	50	4	0.3	3.9	0.1	0.1	0.7	11.5	4.6	15.6	0.2	AA	(D)
East South Central Division:														
Kentucky	-	4	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Tennessee	-	18	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Oklahoma	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E2	45	6	0.6	7.7	0.1	0.2	0.8	26.7	16.5	42.6	(D)	AA	(D)
Pacific Division:														
California	E1	239	32	3.2	44.8	0.4	0.7	5.2	137.5	69.3	201.1	4.7	FF	(D)
Industry 2731-13, Publishing and Printing														
United States	(NA)	**319**	**73**	**16.3**	**225.2**	**7.3**	**13.4**	**81.5**	**532.1**	**225.1**	**744.0**	**20.0**	**15.3**	**354.4**
New England Division:														
Massachusetts	E1	16	5	0.7	8.7	0.1	0.2	1.3	30.5	6.8	32.8	0.4	1.1	38.0
Middle Atlantic Division:														
New York	-	68	16	4.2	67.0	0.9	1.8	11.1	131.2	61.8	189.9	6.9	2.9	99.4
New Jersey	-	9	2	0.3	3.3	0.1	0.3	1.5	8.8	3.5	12.2	(D)	0.4	10.7
Pennsylvania	-	13	6	2.0	24.4	1.0	1.6	10.9	62.7	22.2	83.9	1.1	1.6	29.3
East North Central Division:														
Ohio	-	5	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.8	40.5
Illinois	E2	17	5	0.5	7.3	0.2	0.4	2.5	15.2	3.0	18.2	0.2	0.6	12.7
Michigan	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Wisconsin	-	8	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West North Central Division:														
Minnesota	-	4	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Missouri	-	10	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	1.5
South Atlantic Division:														
District of Columbia	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Virginia	-	7	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Georgia	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 2731-13, Publishing and Printing—Con.														
East South Central Division:														
Tennessee	–	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Texas	–	13	3	0.2	2.0	0.1	0.2	0.9	3.8	2.4	6.5	(D)	AA	(D)
Mountain Division:														
Colorado	–	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California	E1	59	7	0.8	9.8	0.5	0.9	4.6	22.4	13.6	35.1	1.8	CC	(D)
INDUSTRY 2732, BOOK PRINTING														
United States	–	**950**	**370**	**46.9**	**548.2**	**37.6**	**72.6**	**404.1**	**1 029.2**	**662.6**	**1 691.8**	**54.3**	**40.9**	**604.5**
New England Division:														
Vermont	–	5	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Massachusetts	–	41	20	3.1	39.7	2.6	5.1	32.2	67.8	33.4	101.3	3.0	3.9	59.0
Middle Atlantic Division:														
New York	E1	165	55	5.2	65.8	4.0	7.8	45.6	107.3	85.4	195.5	4.0	5.4	94.8
New Jersey	E2	54	20	1.8	23.9	1.4	2.7	16.9	45.9	33.7	79.1	3.3	0.9	12.4
Pennsylvania	–	64	27	3.2	33.9	2.6	5.2	26.9	60.5	37.7	97.9	5.0	3.2	36.3
East North Central Division:														
Ohio	–	38	10	1.7	23.5	1.4	2.9	18.3	45.9	27.8	73.4	1.7	1.6	26.9
Indiana	–	25	12	3.5	52.2	2.9	5.7	40.1	117.7	55.4	174.1	(D)	FF	(D)
Illinois	–	59	17	1.5	20.8	1.1	2.2	14.1	35.3	25.2	61.4	1.5	1.1	18.7
Michigan	–	33	15	1.7	20.2	1.4	2.9	15.0	38.9	24.4	62.6	2.6	EE	(D)
Wisconsin	–	24	11	2.2	31.5	1.5	2.9	20.9	55.8	64.7	118.7	2.8	1.5	34.5
West North Central Division:														
Minnesota	–	8	4	0.2	3.1	0.2	0.3	1.7	5.8	3.4	9.2	(D)	(NA)	(NA)
Iowa	–	7	3	0.3	3.0	0.2	0.5	2.5	6.8	3.2	9.4	0.1	AA	(D)
Missouri	–	27	14	2.3	25.8	1.9	3.7	19.4	48.2	23.7	71.7	3.9	1.1	12.1
Nebraska	–	7	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	–	13	8	1.5	11.9	1.2	2.1	9.1	26.6	12.4	39.0	0.7	BB	(D)
South Atlantic Division:														
Maryland	–	32	19	1.9	22.8	1.5	2.8	16.3	41.5	41.7	83.0	3.3	2.2	36.5
District of Columbia	–	8	5	0.3	4.5	0.2	0.4	3.1	6.2	4.4	10.6	(D)	0.5	8.2
Virginia	–	22	11	1.2	11.5	0.9	1.9	8.4	28.4	16.5	44.8	2.2	1.0	12.5
North Carolina	–	11	4	0.7	5.8	0.5	1.1	4.1	10.9	7.8	18.4	(D)	0.7	8.4
Georgia	–	11	7	0.3	3.0	0.2	0.5	2.3	5.1	4.5	9.6	0.2	0.2	3.1
Florida	E3	28	12	0.7	7.4	0.5	1.0	5.2	13.9	8.5	22.5	0.8	0.8	10.4
East South Central Division:														
Kentucky	–	9	4	1.4	12.8	1.3	2.3	11.0	24.1	21.0	45.2	(D)	CC	(D)
Tennessee	–	12	6	4.6	45.3	3.7	7.1	33.6	77.9	43.0	122.3	3.2	FF	(D)
Alabama	–	11	5	0.4	3.4	0.3	0.5	2.8	7.4	4.0	11.3	(D)	CC	(D)
West South Central Division:														
Louisiana	E1	13	2	0.2	1.8	0.1	0.2	1.3	5.0	1.4	6.4	0.2	(NA)	(NA)
Texas	–	33	16	2.0	19.4	1.7	3.1	13.7	39.6	20.1	59.7	2.0	EE	(D)
Mountain Division:														
Colorado	–	16	5	0.5	6.1	0.4	0.8	4.5	11.8	6.4	18.3	0.3	BB	(D)
Utah	–	10	2	0.2	1.8	0.1	0.2	1.2	3.5	5.1	8.6	0.4	(NA)	(NA)
Pacific Division:														
Washington	–	7	3	0.3	2.8	0.2	0.4	2.4	5.5	2.1	7.4	0.3	BB	(D)
California	–	89	27	2.0	21.8	1.5	2.8	14.8	48.9	26.3	74.7	3.3	CC	(D)
INDUSTRY 2741, MISCELLANEOUS PUBLISHING														
United States	**E1**	**[5]2 352**	**335**	**42.1**	**503.0**	**15.4**	**27.1**	**150.3**	**1 290.7**	**569.9**	**1 850.9**	**39.1**	**38.8**	**775.8**
New England Division:														
Vermont	E1	12	4	0.2	2.0	0.2	0.3	1.2	3.4	2.0	5.5	0.2	(NA)	(NA)
Massachusetts	E1	59	9	0.5	6.8	0.2	0.4	2.0	18.8	7.1	25.6	0.3	CC	(D)
Connecticut	–	44	11	1.0	10.2	0.3	0.6	2.5	25.4	8.4	33.8	0.8	CC	(D)
Middle Atlantic Division:														
New York	E1	477	65	8.0	99.4	2.1	3.9	17.4	256.6	109.4	364.7	5.2	8.7	172.8
New Jersey	E1	90	14	4.7	54.8	0.7	1.4	10.1	101.9	29.5	130.7	7.3	3.8	66.4
Pennsylvania	–	68	8	0.8	10.8	0.5	0.9	5.7	36.5	14.7	51.1	0.8	1.5	35.8
East North Central Division:														
Ohio	–	56	14	1.4	15.7	0.7	1.3	6.0	31.7	23.2	54.5	1.0	EE	(D)
Indiana	–	31	6	1.1	11.3	0.3	0.5	4.0	43.5	20.9	64.1	0.2	0.9	25.7
Illinois	–	129	32	5.0	74.4	1.9	3.7	23.9	198.5	127.7	324.0	5.3	5.4	118.2
Michigan	–	85	21	2.6	30.8	1.3	2.3	14.8	105.4	29.9	133.5	3.3	3.0	86.9
Wisconsin	E1	47	8	0.4	4.3	0.2	0.3	1.3	9.6	5.7	15.3	0.3	0.3	5.2
West North Central Division:														
Minnesota	E1	57	6	0.8	9.7	0.3	0.5	3.4	16.2	11.0	27.1	0.6	CC	(D)
Iowa	E1	43	4	0.4	4.3	0.2	0.4	1.8	8.7	5.7	14.5	0.3	CC	(D)
Missouri	–	47	6	1.4	11.6	0.5	0.8	3.8	24.2	10.9	36.5	0.5	0.6	10.0
Nebraska	–	11	1	0.2	2.2	0.1	0.2	0.9	4.0	2.3	6.3	(D)	(NA)	(NA)
Kansas	–	26	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.0	12.0

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2741, MISCELLANEOUS PUBLISHING—Con.													
South Atlantic Division:													
Maryland	–	36	2	0.5	4.9	(Z)	0.1	0.3	19.1	14.1	33.0	(D)	0.2	3.4
District of Columbia	–	33	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	18.5
Virginia	E1	31	7	0.9	9.3	0.2	0.4	1.6	17.5	6.4	24.1	0.1	0.9	10.9
Georgia	E3	29	4	0.3	3.9	0.2	0.3	1.3	7.2	4.4	11.6	0.3	0.2	3.7
Florida	E2	97	10	1.1	12.5	0.6	1.1	5.7	23.2	10.0	33.4	0.8	0.8	14.3
East South Central Division:														
Tennessee	E4	85	6	0.4	3.9	0.1	0.2	0.8	9.3	4.2	13.5	0.2	0.6	9.5
West South Central Division:														
Texas	E2	100	10	1.2	11.5	0.4	0.7	3.2	25.0	7.8	32.9	0.4	CC	(D)
Mountain Division:														
Colorado	–	32	6	1.2	17.0	0.5	1.0	4.5	48.5	10.7	58.1	(D)	CC	(D)
Arizona	E1	24	3	0.2	2.0	0.1	0.1	0.4	4.8	2.5	7.3	0.1	(NA)	(NA)
Utah	–	10	2	0.2	1.8	0.1	0.1	0.5	6.4	1.9	8.3	(D)	(NA)	(NA)
Pacific Division:														
Oregon	E2	18	3	0.2	1.4	(Z)	0.1	0.3	2.8	1.1	3.9	0.2	(NA)	(NA)
California	E2	379	52	4.5	51.1	1.9	3.1	17.4	126.7	47.3	173.0	4.3	FF	(D)
Industry 2741-11, Publishing Only														
United States	(NA)	[5]2 194	250	30.8	359.5	9.6	16.8	86.6	925.9	452.5	1 370.9	22.7	27.1	553.1
New England Division:														
Vermont	E2	10	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Massachusetts	E2	53	7	0.4	5.4	0.1	0.2	1.4	14.7	5.2	19.7	0.3	CC	(D)
Connecticut	–	39	7	0.7	8.2	0.2	0.4	1.7	22.5	6.8	29.3	(D)	CC	(D)
Middle Atlantic Division:														
New York	E1	459	56	7.2	91.0	1.7	3.2	14.0	234.9	97.4	331.8	4.2	5.5	110.7
New Jersey	E1	87	12	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.1	53.8
Pennsylvania	E2	63	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East North Central Division:														
Ohio	–	50	10	1.0	9.3	0.5	0.8	3.1	20.2	18.2	38.3	0.5	0.7	8.7
Indiana	–	27	5	1.0	10.6	0.3	0.5	3.9	41.9	20.5	62.0	0.1	0.6	19.8
Illinois	–	113	19	1.9	23.0	0.5	1.0	4.6	82.8	99.9	181.2	0.8	2.6	47.2
Michigan	–	70	11	1.8	20.9	0.9	1.6	10.7	81.6	22.2	101.9	(D)	2.7	82.3
Wisconsin	E2	43	6	0.4	3.6	0.1	0.2	1.0	8.0	5.0	13.0	0.2	AA	(D)
West North Central Division:														
Minnesota	E2	53	4	0.4	4.5	0.1	0.2	0.9	10.5	5.9	16.4	(D)	BB	(D)
Iowa	E4	36	–	0.2	1.9	0.1	0.1	0.5	3.8	2.5	6.3	0.1	BB	(D)
Missouri	–	43	5	1.3	10.7	0.5	0.7	3.4	21.9	10.1	33.3	0.4	CC	(D)
Nebraska	–	11	1	0.2	2.2	0.1	0.2	0.9	4.0	2.3	6.3	(D)	AA	(D)
Kansas	–	22	4	0.4	6.0	0.3	0.7	4.6	23.3	7.9	30.0	0.1	CC	(D)
South Atlantic Division:														
Maryland	–	36	2	0.5	4.9	(Z)	0.1	0.3	19.1	14.1	33.0	(D)	0.2	3.4
District of Columbia	–	29	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Virginia	E2	28	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Georgia	E3	29	4	0.3	3.9	0.2	0.3	1.3	7.2	4.4	11.6	0.3	AA	(D)
Florida	E2	91	7	0.7	7.2	0.4	0.6	3.1	14.9	8.2	23.1	(D)	BB	(D)
East South Central Division:														
Tennessee	E5	84	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Texas	E4	91	6	0.5	5.9	0.3	0.4	1.9	12.0	6.0	18.0	0.3	CC	(D)
Mountain Division:														
Colorado	–	30	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Arizona	E1	23	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
California	E2	364	46	3.8	42.9	1.6	2.6	12.9	100.1	43.6	142.7	4.0	2.4	50.5
Industry 2741-13, Publishing and Printing														
United States	(NA)	[5]156	84	11.1	139.4	5.6	9.9	61.4	357.0	112.9	468.1	15.9	11.7	222.6
New England Division:														
Connecticut	–	5	4	0.2	2.0	0.1	0.2	0.7	2.8	1.6	4.4	(D)	AA	(D)
Middle Atlantic Division:														
New York	–	18	9	0.8	8.4	0.4	0.7	3.3	21.7	12.0	32.9	1.0	3.1	62.1
New Jersey	–	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	12.6
Pennsylvania	–	5	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East North Central Division:														
Ohio	–	5	3	0.2	2.3	0.1	0.1	0.6	4.0	0.5	4.5	0.1	0.6	7.8
Illinois	–	16	13	3.1	51.4	1.4	2.7	19.4	115.7	27.9	142.8	4.5	2.9	71.0
Michigan	–	15	10	0.8	9.9	0.4	0.7	4.1	23.9	7.7	31.6	(D)	0.2	4.6
West North Central Division:														
Minnesota	–	4	2	0.4	5.1	0.2	0.3	2.5	5.6	5.1	10.6	(D)	BB	(D)
Iowa	–	7	4	0.3	2.4	0.2	0.3	1.4	5.0	3.2	8.2	0.2	BB	(D)
Kansas	–	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 2741-13, Publishing and Printing—Con.														
South Atlantic Division:														
Virginia	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Florida	-	6	3	0.4	5.4	0.2	0.5	2.6	8.3	1.9	10.4	(D)	AA	(D)
West South Central Division:														
Texas	-	9	4	0.7	5.6	0.2	0.3	1.3	13.1	1.8	14.9	0.1	AA	(D)
Mountain Division:														
Colorado	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pacific Division:														
California	-	15	6	0.6	8.2	0.3	0.6	4.5	26.6	3.7	30.3	0.4	1.4	19.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Newspapers (SIC 2711)			Periodicals (SIC 2721)		
		Total	Daily (SIC 2711-11)	Weekly and others (SIC 2711-13)	Total	Publishing only (SIC 2721-11)	Publishing and printing (SIC 2721-13)
Primary product specialization ratio[1]	percent	96	(NA)	(NA)	90	(NA)	(NA)
Coverage ratio[2]	do	100	(NA)	(NA)	86	(NA)	(NA)
All establishments	number	[7]8 867	[7]1 467	[7]7 399	[7]2 994	[7]2 595	[7]398
With 1 to 19 employees	do	6 720	148	6 571	2 469	2 174	294
With 20 to 99 employees	do	1 538	799	739	422	339	83
With 100 employees or more	do	609	520	89	103	82	21
All employees, average for year	1,000	349.9	275.6	74.3	69.9	58.9	11.0
Payroll for year, all employees	mil. dol.	4 306.0	3 558.7	747.3	1 019.8	878.7	141.0
Production workers:							
Average for year	1,000	147.2	112.0	35.3	10.6	6.8	3.9
March	do	145.7	112.0	33.8	10.3	6.4	3.9
May	do	146.3	112.0	34.2	10.3	6.5	3.8
August	do	145.1	110.6	34.4	10.1	6.4	3.8
November	do	148.2	113.2	35.0	10.3	6.5	3.8
Hours	millions	252.5	193.1	59.4	20.5	13.5	7.0
January to March	do	63.0	47.6	15.4	5.4	3.7	1.7
April to June	do	62.8	48.4	14.4	4.9	3.1	1.7
July to September	do	62.2	47.7	14.6	4.9	3.2	1.7
October to December	do	64.4	49.4	15.0	5.2	3.5	1.8
Wages	mil. dol.	1 805.3	1 497.6	307.6	115.7	77.6	38.0
Cost of materials, etc.	do	3 539.2	2 922.1	617.1	2 289.2	2 173.1	116.0
Materials, parts, containers, etc., consumed	do	3 200.1	2 714.0	486.2	937.6	860.2	77.3
Resales	do	25.0	12.9	12.0	47.7	42.5	5.1
Fuels consumed	do	22.5	18.4	4.1	3.1	2.6	0.6
Purchased electric energy	do	78.6	65.7	12.9	9.9	8.2	1.7
Contract work	do	213.0	111.2	101.9	1 291.0	1 259.6	31.4
Value of shipments, including resales	do	13 055.9	10 893.6	2 162.1	6 056.5	5 586.0	470.2
Value of resales	do	31.9	20.2	11.7	93.9	86.0	7.9
Value added by manufacture	do	9 519.1	7 972.1	1 546.9	3 762.7	3 407.0	355.6
Manufacturers' inventories:							
Beginning of year	do	371.8	307.8	64.0	314.7	288.0	26.6
Finished products	do	5.6	2.6	3.1	113.7	99.0	14.7
Work in process	do	4.0	1.4	2.7	62.5	58.0	4.5
Materials, supplies, fuel, etc.	do	362.1	303.9	58.2	138.4	130.9	7.5
End of year	do	382.1	304.8	77.3	349.6	320.8	28.8
Finished products	do	7.3	2.8	4.5	118.6	103.2	15.4
Work in process	do	4.8	1.6	3.2	53.2	48.0	5.2
Materials, supplies, fuel, etc.	do	370.0	300.3	69.6	177.8	169.7	8.2
Capital expenditures for plant and equipment	do	507.2	419.4	87.8	85.7	75.5	10.2
New capital expenditures	do	478.1	396.7	81.4	78.9	69.7	9.1
New buildings and other structures	do	93.5	73.8	19.8	22.4	21.5	0.8
New machinery and equipment	do	384.6	322.9	61.6	56.5	48.2	8.3
Used capital expenditures	do	29.1	22.7	6.4	6.8	5.7	1.0

See footnotes at end of table.

Table 3a. **Summary Statistics for the Industry: 1977**—Con.

[For explanation of terms, see appendix A]

Item	Unit of measure	Book publishing (SIC 2731)			Book printing (SIC 2732)	Miscellaneous publishing (SIC 2741)		
		Total	Publishing only (SIC 2731-11)	Publishing and printing (SIC 2731-13)		Total	Publishing only (SIC 2741-11)	Publishing and printing (SIC 2741-13)
Primary product specialization ratio[1]	percent	94	(NA)	(NA)	85	95	(NA)	(NA)
Coverage ratio[2]	do	88	(NA)	(NA)	78	89	(NA)	(NA)
All establishments	number	1 745	1 426	319	950	[7]2 352	[7]2 194	[7]156
With 1 to 19 employees	do	1 399	1 153	246	580	2 017	1 944	72
With 20 to 99 employees	do	233	185	48	284	269	209	60
With 100 employees or more	do	113	88	25	86	66	41	24
All employees, average for year	1,000	59.5	43.1	16.3	46.9	42.1	30.8	11.1
Payroll for year, all employees	mil. dol.	830.2	605.0	225.2	548.2	503.0	359.5	139.4
Production workers:								
Average for year	1,000	13.3	6.1	7.3	37.6	15.4	9.6	5.6
March	do	12.8	5.6	7.2	39.2	14.5	8.9	5.4
May	do	13.1	6.0	7.2	38.5	15.0	9.3	5.5
August	do	13.3	6.0	7.4	36.5	15.4	9.6	5.6
November	do	13.3	6.0	7.3	36.2	15.4	9.4	5.8
Hours	millions	24.9	11.5	13.4	72.6	27.1	16.8	9.9
January to March	do	6.4	3.0	3.4	18.7	6.9	4.4	2.4
April to June	do	6.0	2.8	3.3	18.9	6.6	4.1	2.4
July to September	do	6.2	2.9	3.3	17.6	6.7	4.1	2.5
October to December	do	6.3	2.9	3.4	17.4	6.9	4.2	2.6
Wages	mil. dol.	140.1	58.6	81.5	404.1	150.3	86.6	61.4
Cost of materials, etc.	do	1 544.2	1 319.2	225.1	662.6	569.9	452.5	112.9
Materials, parts, containers, etc., consumed	do	485.8	326.1	159.7	573.0	203.8	127.7	72.4
Resales	do	43.5	38.8	4.6	10.6	16.9	8.1	8.3
Fuels consumed	do	3.0	1.6	1.4	6.7	2.2	1.6	0.6
Purchased electric energy	do	8.0	3.9	4.1	16.3	10.6	7.5	3.0
Contract work	do	1 004.0	948.7	55.3	55.9	336.4	307.7	28.6
Value of shipments, including resales	do	4 793.9	4 049.9	744.0	1 691.8	1 850.9	1 370.9	468.1
Value of resales	do	71.1	61.2	9.9	12.8	24.4	10.9	12.5
Value added by manufacture	do	3 261.9	2 729.7	532.1	1 029.2	1 290.7	925.9	357.0
Manufacturers' inventories:								
Beginning of year	do	963.4	811.6	151.8	190.3	121.7	84.1	36.9
Finished products	do	703.5	620.2	83.3	26.0	50.6	34.4	16.2
Work in process	do	158.8	118.6	40.2	76.6	34.9	24.8	9.9
Materials, supplies, fuel, etc.	do	101.1	72.9	28.2	87.8	36.1	24.9	10.9
End of year	do	992.0	820.4	171.6	194.0	139.1	98.1	39.7
Finished products	do	701.5	609.5	92.0	22.7	55.1	37.2	17.9
Work in process	do	172.9	128.2	44.7	79.8	40.2	29.6	10.1
Materials, supplies, fuel, etc.	do	117.6	82.6	35.0	91.5	43.8	31.4	11.8
Capital expenditures for plant and equipment	do	86.8	65.9	21.0	61.8	41.0	23.7	16.8
New capital expenditures	do	79.8	59.8	20.0	54.3	39.1	22.7	15.9
New buildings and other structures	do	16.3	11.2	5.1	9.1	14.1	7.3	6.8
New machinery and equipment	do	63.5	48.6	14.8	45.3	25.0	15.4	9.1
Used capital expenditures	do	7.0	6.0	1.0	7.5	1.9	1.0	0.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Newspapers (SIC 2711)		Periodicals (SIC 2721)		Book publishing (SIC 2731)		Book printing (SIC 2732)		Miscellaneous publishing (SIC 2741)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	30.6	6	7.6	7	6.1	11	(3.3)	50	(1.5)	30
Response coverage ratio[2] (percent)	58.0	(X)	84.1	(X)	63.4	(X)	52.9	(X)	61.7	(X)
Machinery	314.0	1	4.7	6	(4.9)	19	17.9	8	(3.3)	17
Response coverage ratio[2] (percent)	60.9	(X)	83.8	(X)	66.5	(X)	53.8	(X)	67.5	(X)
Cost of purchased communication services	(182.5)	34	30.3	7	18.2	7	5.7	14	13.7	14
Response coverage ratio[2] (percent)	53.7	(X)	83.2	(X)	64.2	(X)	57.7	(X)	59.9	(X)
Rental payments	108.8	5	98.5	5	70.0	3	18.0	9	27.2	6
Buildings and other structures	50.9	8	63.2	5	38.1	3	11.1	14	11.5	9
Machinery and equipment	57.7	5	35.3	7	31.8	4	6.9	9	15.6	10
Supplemental labor costs	699.4	1	171.8	3	135.0	2	87.2	2	78.5	3
Legal costs	294.3	1	68.1	3	55.0	2	40.8	2	34.7	4
Voluntary costs	405.2	1	103.7	3	80.0	2	46.4	3	43.9	4
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	1,567.7	1	376.1	5	218.9	5	159.8	8	89.1	11
New capital expenditures	120.1	7	18.9	9	14.5	10	(23.1)	40	(24.6)	30
Used capital expenditures	(25.7)	35	3.7	3	(7.4)	60	(2.5)	28	(0.6)	67
Retirements	35.6	11	13.3	7	4.9	4	8.3	10	(0.2)	(A)
End of year	1,677.8	1	385.3	5	235.9	5	177.1	9	114.1	6
Machinery and equipment:										
Beginning of year	3,042.0	1	306.0	5	408.3	4	498.1	4	187.8	11
New capital expenditures	434.3	4	67.4	10	63.4	5	(55.3)	22	(47.5)	32
Automobiles, trucks, etc., for highway use[3]	(26.0)	77	(1.4)	(A)	(2.6)	(A)	(2.7)	(A)	(0.8)	(A)
Computers and peripheral data processing equipment[3]	(84.1)	24	(10.0)	(A)	(4.4)	(A)	(2.2)	(A)	(4.8)	(A)
All other[3]	246.0	8	(18.5)	(A)	(45.6)	44	(31.6)	63	(6.8)	(A)
New machinery and equipment, n.s.k.[4]	(78.1)	26	(37.5)	38	(10.8)	(A)	(18.7)	(A)	(35.1)	57
Used capital expenditures	21.7	11	(2.4)	18	(5.8)	24	(6.1)	22	(2.5)	33
Retirements	149.4	6	36.0	4	33.2	3	31.9	11	(4.0)	(A)
End of year	3,348.6	1	339.8	5	444.3	3	527.6	4	233.8	6
Total gross value of depreciable assets:										
Beginning of year	4,609.3	1	682.0	3	627.3	3	657.8	3	276.8	7
New capital expenditures	554.4	4	86.3	9	77.9	6	(78.4)	26	72.1	9
Used capital expenditures	(47.4)	20	6.1	8	(13.2)	37	(8.6)	19	(3.2)	33
Retirements	184.7	6	49.1	5	37.9	3	40.2	10	(4.2)	(A)
End of year	5,026.3	1	725.1	3	680.4	3	704.6	2	347.9	5
Depreciation charges during 1977	348.8	3	50.7	7	52.7	3	49.1	4	26.1	7
Buildings and other structures	69.5	5	14.4	6	8.6	6	6.2	14	5.6	7
Machinery and equipment	279.3	3	36.3	8	44.0	1	42.9	4	20.6	8

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2711, NEWSPAPERS												
Total	-	[5]8 867	**349.9**	**4 306.0**	**147.2**	**252.5**	**1 805.3**	**9 519.1**	**3 539.2**	**13 055.9**	**478.1**	**382.1**
Establishments with an average of—												
1 to 4 employees	E8	4 455	6.9	80.0	4.2	5.4	35.3	197.3	68.4	265.7	9.5	7.9
5 to 9 employees	E5	1 183	7.6	82.1	3.4	6.1	35.6	175.1	68.1	243.2	7.9	8.1
10 to 19 employees	E1	1 080	15.2	140.5	7.2	12.3	61.0	282.5	113.4	395.8	13.2	13.9
20 to 49 employees	-	1 018	31.7	292.0	15.9	28.6	122.7	617.3	189.3	806.3	38.6	26.4
50 to 99 employees	-	521	36.7	359.9	16.0	28.8	136.6	832.1	240.8	1 072.4	47.1	32.4
100 to 249 employees	-	352	52.8	573.5	21.6	37.3	219.0	1 371.2	390.8	1 761.7	91.4	50.7
250 to 499 employees	-	135	46.3	517.9	16.7	28.2	196.7	1 240.4	383.9	1 623.4	59.4	48.4
500 to 999 employees	-	67	47.1	618.4	18.3	32.4	260.8	1 413.9	585.8	1 999.6	58.0	59.5
1,000 to 2,499 employees	-	46	68.7	1 030.8	27.6	47.0	447.7	2 210.8	936.6	3 147.2	101.5	94.1
2,500 employees or more	-	10	37.0	610.9	16.4	26.2	290.0	1 178.5	562.1	1 740.6	51.4	40.6
Covered by administrative records[2]	E0	4 667	10.3	117.8	5.5	7.8	51.8	264.2	95.5	359.7	10.8	11.1
Industry 2711-11, Daily												
Total	-	[5]1 467	**275.6**	**3 558.7**	**112.0**	**193.1**	**1 497.6**	**7 972.1**	**2 922.1**	**10 893.6**	**396.7**	**304.8**
Establishments with an average of—												
1 to 4 employees	-	15	(0.3)	(3.6)	(0.1)	(0.2)	(1.5)	(9.3)	(4.9)	(14.1)	(0.7)	(0.4)
5 to 9 employees	-	34	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	-	99	1.5	13.9	0.8	1.4	6.0	29.1	9.8	38.8	1.1	1.2
20 to 49 employees	-	424	14.4	136.1	6.9	12.6	54.5	305.0	73.0	377.9	22.5	11.5
50 to 99 employees	-	375	26.4	262.5	11.5	20.9	99.6	625.9	153.9	779.8	34.1	23.6
100 to 249 employees	-	282	42.7	474.8	17.2	30.2	183.9	1 181.4	304.6	1 486.0	78.5	41.8
250 to 499 employees	-	120	41.1	461.5	14.7	24.6	174.3	1 121.0	333.1	1 454.0	51.9	39.8
500 to 999 employees	-	64	(112.2)	(1 595.4)	(44.4)	(77.0)	(687.8)	(3 521.9)	(1 480.8)	(5 002.4)	(156.5)	(145.8)
1,000 to 2,499 employees	-	44	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	10	37.0	610.9	16.4	26.2	290.0	1 178.5	562.1	1 740.6	51.4	40.6
Industry 2711-13, Weekly and Others												
Total	E2	[5]7 399	**74.3**	**747.3**	**35.3**	**59.4**	**307.6**	**1 546.9**	**617.1**	**2 162.1**	**81.4**	**77.3**
Establishments with an average of—												
1 to 4 employees	E8	4 439	(14.2)	(158.5)	(7.5)	(11.2)	(69.4)	(363.0)	(131.6)	(494.6)	(16.6)	(15.5)
5 to 9 employees	E5	1 149	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	E3	981	13.6	126.6	6.5	10.9	55.0	253.4	103.6	357.0	12.1	12.7
20 to 49 employees	E1	594	17.2	155.9	9.0	16.0	68.2	312.3	116.3	428.3	16.2	14.9
50 to 99 employees	E1	146	10.3	97.5	4.6	7.9	37.0	206.2	86.9	292.6	13.0	8.8
100 to 249 employees	-	70	10.1	98.8	4.3	7.2	35.1	189.8	86.2	275.7	12.9	9.0
250 to 499 employees	-	15	(8.9)	(110.1)	(3.4)	(6.1)	(43.0)	(222.1)	(92.4)	(313.7)	(10.6)	(16.4)
500 to 999 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	4 667	10.3	117.8	5.5	7.8	51.8	264.2	95.5	359.7	10.8	11.1
INDUSTRY 2721, PERIODICALS												
Total	-	[5]2 994	**69.9**	**1 019.8**	**10.6**	**20.5**	**115.7**	**3 762.7**	**2 289.2**	**6 056.5**	**78.9**	**349.6**
Establishments with an average of—												
1 to 4 employees	E7	1 831	2.4	43.4	0.6	0.6	11.4	111.6	78.5	207.2	2.3	10.1
5 to 9 employees	E2	353	2.4	34.8	0.5	0.7	5.0	96.9	75.6	172.5	6.2	8.9
10 to 19 employees	E1	280	3.7	53.2	0.8	1.5	8.3	163.1	100.0	262.3	2.4	12.7
20 to 49 employees	E1	310	9.5	135.4	2.5	5.1	24.0	432.3	240.4	670.6	8.0	31.8
50 to 99 employees	-	115	7.3	107.0	2.1	4.1	22.7	363.8	182.6	546.0	5.8	31.5
100 to 249 employees	-	62	9.4	127.0	2.0	3.9	19.3	500.4	225.5	726.0	10.2	37.4
250 to 499 employees	-	18	6.1	86.2	1.1	2.2	12.4	355.8	208.2	561.2	19.7	47.8
500 to 999 employees	-	18	13.5	182.2	0.7	1.7	8.7	850.2	595.3	1 439.3	9.8	67.8
1,000 to 2,499 employees	-	4	5.5	73.9	0.1	0.2	0.9	250.0	225.6	472.6	3.7	64.5
2,500 employees or more	-	3	10.0	176.7	0.2	0.3	2.9	638.6	357.6	998.8	10.6	37.2
Covered by administrative records[2]	E0	1 535	2.3	35.2	0.6	0.6	5.1	112.1	70.0	182.1	1.1	8.6
Industry 2721-11, Publishing Only												
Total	-	[5]2 595	**58.9**	**878.7**	**6.8**	**13.5**	**77.6**	**3 407.0**	**2 173.1**	**5 586.0**	**69.7**	**320.8**
Establishments with an average of—												
1 to 4 employees	E7	1 626	2.1	38.1	0.5	0.3	9.9	101.9	73.0	192.0	2.3	9.7
5 to 9 employees	E2	301	2.0	30.4	0.4	0.5	3.8	88.7	70.8	159.5	6.1	8.5
10 to 19 employees	E1	243	3.2	47.4	0.6	1.2	6.9	152.5	95.4	247.2	2.0	11.8
20 to 49 employees	E1	253	7.6	114.8	1.6	3.7	16.8	391.1	221.0	610.2	6.5	28.6
50 to 99 employees	-	89	5.6	88.0	1.3	2.6	15.2	312.2	168.6	480.6	4.2	27.8
100 to 249 employees	-	47	7.4	100.1	1.1	2.4	9.7	417.4	207.8	624.9	(38.0)	31.1
250 to 499 employees	-	15	5.3	75.8	0.7	1.3	7.2	329.1	197.3	523.7	(D)	43.3
500 to 999 employees	-	15	(15.6)	(207.4)	(0.4)	(1.1)	(5.2)	(975.5)	(781.6)	(1 749.1)	(D)	(122.7)
1,000 to 2,499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	3	10.0	176.7	0.2	0.3	2.9	638.6	357.6	998.8	10.6	37.2
Covered by administrative records[2]	E0	1 316	1.7	27.8	0.4	0.3	3.0	99.1	62.8	161.9	1.1	8.2
Industry 2721-13, Publishing and Printing												
Total	-	[5]398	**11.0**	**141.0**	**3.9**	**7.0**	**36.0**	**355.6**	**116.0**	**470.2**	**9.1**	**28.8**
Establishments with an average of—												
1 to 4 employees	E9	205	0.4	5.3	0.2	0.3	1.5	9.8	5.5	15.2	(Z)	0.3
5 to 9 employees	E5	51	0.3	4.3	0.1	0.2	1.2	8.0	4.7	12.7	0.1	0.3
10 to 19 employees	E3	37	0.5	5.8	0.2	0.3	1.4	10.6	4.6	15.1	0.5	0.9
20 to 49 employees	E2	57	1.8	20.6	0.9	1.4	7.2	41.3	19.4	60.4	1.5	3.1
50 to 99 employees	-	26	1.7	19.0	0.8	1.6	7.5	51.5	14.1	65.4	1.6	3.8
100 to 249 employees	-	15	2.1	26.9	0.9	1.6	9.5	83.1	17.8	101.1	(5.4)	6.3
250 to 499 employees	-	3	0.8	10.4	0.4	0.9	5.2	26.7	10.9	37.5	(D)	4.4
500 to 999 employees	-	3	(3.4)	(48.6)	(0.4)	(0.8)	(4.4)	(124.6)	(39.2)	(162.7)	(D)	(9.6)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	219	0.5	7.4	0.2	0.4	2.1	13.0	7.3	20.2	(Z)	0.4

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 2731, BOOK PUBLISHING												
Total	-	**1 745**	**59.5**	**830.2**	**13.3**	**24.9**	**140.1**	**3 261.9**	**1 544.2**	**4 793.9**	**79.8**	**992.0**
Establishments with an average of—												
1 to 4 employees	E7	1 001	1.3	18.3	0.5	0.5	3.8	65.2	31.6	102.9	2.5	22.6
5 to 9 employees	E3	210	1.4	18.6	0.3	0.5	3.0	66.6	40.3	105.7	1.7	21.6
10 to 19 employees	E1	186	2.6	32.9	0.7	1.3	6.4	119.6	62.1	176.5	3.5	44.6
20 to 49 employees	E1	146	4.6	60.4	1.1	2.3	11.4	232.8	127.2	355.0	5.2	77.1
50 to 99 employees	-	87	6.1	77.7	1.4	2.9	13.2	281.0	160.3	434.7	9.0	113.6
100 to 249 employees	-	56	8.3	108.6	1.6	3.2	15.4	368.4	203.8	558.2	11.4	137.3
250 to 499 employees	-	30	10.1	136.1	2.4	4.6	23.4	707.8	302.1	1 002.6	17.2	188.8
500 to 999 employees	-	22	13.3	191.1	2.3	4.0	26.4	827.0	418.0	1 270.3	15.7	207.7
1,000 to 2,499 employees	-	6	(11.8)	(186.5)	(3.0)	(5.6)	(37.2)	(593.4)	(198.6)	(787.9)	(13.6)	(178.8)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	868	1.6	22.3	0.6	0.7	4.6	83.5	39.2	122.7	3.0	27.0
Industry 2731-11, Publishing Only												
Total	-	**1 426**	**43.1**	**605.0**	**6.1**	**11.5**	**58.6**	**2 729.7**	**1 319.2**	**4 049.9**	**59.8**	**820.4**
Establishments with an average of—												
1 to 4 employees	E7	826	1.0	14.3	0.3	0.2	2.1	55.3	27.0	88.4	1.9	19.1
5 to 9 employees	E3	175	1.2	16.1	0.2	0.3	2.0	59.9	37.1	95.9	1.5	19.4
10 to 19 employees	E1	150	2.1	27.2	0.4	0.8	4.2	104.9	55.4	155.9	3.0	39.9
20 to 49 employees	E1	117	3.8	49.8	0.7	1.5	8.0	208.2	112.5	315.9	4.5	70.6
50 to 99 employees	-	68	4.7	61.0	0.9	2.0	8.6	238.8	144.0	376.0	(32.0)	99.1
100 to 249 employees	-	45	6.6	87.8	0.9	2.0	7.9	330.0	162.4	479.2	(D)	114.4
250 to 499 employees	-	23	7.8	108.2	1.3	2.4	11.1	642.8	283.0	923.5	(D)	164.5
500 to 999 employees	-	19	11.1	161.3	1.0	1.7	10.9	748.3	377.5	1 152.7	(17.1)	186.1
1,000 to 2,499 employees	-	2	(5.0)	(79.2)	(0.3)	(0.5)	(3.9)	(341.7)	(120.1)	(462.4)	(D)	(107.2)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	688	1.2	16.6	0.3	0.3	2.2	69.7	32.9	102.6	2.4	22.2
Industry 2731-13, Publishing and Printing												
Total	-	**319**	**16.3**	**225.2**	**7.3**	**13.4**	**81.5**	**532.1**	**225.1**	**744.0**	**20.0**	**171.6**
Establishments with an average of—												
1 to 4 employees	E8	175	0.3	4.0	0.2	0.3	1.7	9.8	4.7	14.5	0.6	3.5
5 to 9 employees	E6	35	0.2	2.6	0.1	0.2	1.1	6.7	3.2	9.8	0.3	2.2
10 to 19 employees	E3	36	0.5	5.7	0.3	0.5	2.2	14.8	6.7	20.6	0.5	4.7
20 to 49 employees	E2	29	0.9	10.6	0.4	0.8	3.4	24.6	14.7	39.1	0.8	6.5
50 to 99 employees	-	19	1.4	16.7	0.5	0.9	4.7	42.3	16.3	58.7	(5.6)	14.5
100 to 249 employees	-	11	1.7	20.8	0.7	1.2	7.5	38.5	41.4	79.0	(D)	22.9
250 to 499 employees	-	7	2.3	27.9	1.1	2.2	12.3	65.0	19.1	79.2	(D)	24.3
500 to 999 employees	-	3	2.2	29.8	1.3	2.3	15.5	78.7	40.5	117.6	1.7	21.6
1,000 to 2,499 employees	-	4	6.8	107.3	2.7	5.1	33.3	251.7	78.5	325.5	10.6	71.6
Covered by administrative records[2]	E0	180	0.4	5.7	0.3	0.4	2.4	13.8	6.3	20.1	0.6	4.8
INDUSTRY 2732, BOOK PRINTING												
Total	-	**950**	**46.9**	**548.2**	**37.6**	**72.6**	**404.1**	**1 029.2**	**662.6**	**1 691.8**	**54.3**	**194.0**
Establishments with an average of—												
1 to 4 employees	E5	194	0.4	4.1	0.3	0.5	3.0	5.2	6.7	16.6	0.7	1.8
5 to 9 employees	E3	190	1.3	15.1	1.0	2.0	11.1	29.4	20.3	49.4	1.7	5.0
10 to 19 employees	-	196	2.7	29.7	2.0	3.8	21.3	55.5	36.2	90.2	2.9	8.8
20 to 49 employees	E1	200	6.3	74.5	4.8	9.2	51.9	135.8	86.9	221.5	8.9	19.6
50 to 99 employees	-	84	5.5	68.5	4.4	8.2	46.8	122.9	83.9	207.3	9.4	24.1
100 to 249 employees	-	46	6.8	79.7	5.5	10.9	61.0	157.2	104.9	261.4	9.7	31.9
250 to 499 employees	-	24	8.5	98.3	6.6	13.0	70.8	169.1	134.3	302.1	(21.0)	32.4
500 to 999 employees	-	13	9.9	107.2	8.5	16.4	87.8	220.2	122.2	342.0	(D)	45.2
1,000 to 2,499 employees	-	2	(5.6)	(71.1)	(4.4)	(8.6)	(50.4)	(133.9)	(67.2)	(201.3)	(D)	(25.2)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	206	0.7	7.8	0.6	1.1	5.7	14.9	9.1	24.1	1.0	3.1
INDUSTRY 2741, MISCELLANEOUS PUBLISHING												
Total	**E1**	**[5]2 352**	**42.1**	**503.0**	**15.4**	**27.1**	**150.3**	**1 290.7**	**569.9**	**1 850.9**	**39.1**	**139.1**
Establishments with an average of—												
1 to 4 employees	E7	1 439	2.1	24.7	0.9	0.9	4.9	64.5	35.7	101.2	1.8	6.0
5 to 9 employees	E2	302	2.0	24.0	0.7	1.2	6.0	58.2	32.0	89.9	1.7	5.6
10 to 19 employees	E1	275	3.6	41.1	1.4	2.4	11.2	91.8	55.1	145.6	2.6	11.3
20 to 49 employees	E1	201	6.0	64.5	2.7	4.4	21.3	144.9	78.3	221.8	5.2	19.2
50 to 99 employees	E1	69	4.5	53.3	2.1	3.9	18.3	124.0	56.4	179.3	4.4	13.8
100 to 249 employees	-	38	5.8	73.0	2.9	5.5	33.6	204.6	72.4	274.6	6.1	23.0
250 to 499 employees	-	16	5.8	70.1	2.1	3.9	27.3	217.2	149.3	365.6	4.3	35.0
500 to 999 employees	-	9	5.3	61.8	1.9	3.6	18.0	197.4	47.7	242.6	(12.9)	19.3
1,000 to 2,499 employees	-	2	(7.0)	(90.6)	(0.7)	(1.4)	(9.7)	(188.1)	(43.0)	(230.3)	(D)	(5.9)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	1 185	2.0	23.4	0.8	0.8	4.0	53.2	33.5	86.8	1.0	4.9

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
Industry 2741-11, Publishing Only												
Total	**E1**	**[5]2 194**	**30.8**	**359.5**	**9.6**	**16.8**	**86.6**	**925.9**	**452.5**	**1 370.9**	**22.7**	**98.1**
Establishments with an average of—												
1 to 4 employees	E5	1 433	(3.9)	(46.5)	(1.5)	(1.9)	(9.9)	(116.4)	(65.5)	(182.5)	(3.5)	(11.0)
5 to 9 employees	E2	274	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	E2	236	3.1	36.2	1.1	2.1	9.3	81.2	47.0	127.2	2.3	8.8
20 to 49 employees	E1	163	4.8	52.1	2.0	3.3	15.3	118.1	68.6	185.5	3.6	14.9
50 to 99 employees	E1	47	3.1	35.2	1.4	2.6	11.4	81.8	36.3	117.6	1.7	8.5
100 to 249 employees	–	24	3.6	45.8	1.7	3.4	18.1	123.0	57.8	179.1	(11.7)	16.5
250 to 499 employees	–	9	3.4	37.9	0.7	1.1	9.6	136.4	122.6	258.2	(D)	23.2
500 to 999 employees	–	6	(8.8)	(105.8)	(1.3)	(2.5)	(13.0)	(269.0)	(54.8)	(320.8)	(D)	(15.3)
1,000 to 2,499 employees	–	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	–	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	1 185	2.0	23.4	0.8	0.8	4.0	53.2	33.5	86.8	1.0	4.9
Industry 2741-13, Publishing and Printing												
Total	**–**	**[5]156**	**11.1**	**139.4**	**5.6**	**9.9**	**61.4**	**357.0**	**112.9**	**468.1**	**15.9**	**39.7**
Establishments with an average of—												
1 to 4 employees	–	5	(0.2)	(2.2)	(0.1)	(0.2)	(1.0)	(6.4)	(2.3)	(8.6)	(0.1)	(0.6)
5 to 9 employees	–	28	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	–	39	0.5	4.9	0.2	0.3	1.9	10.5	8.0	18.4	0.3	2.5
20 to 49 employees	–	38	1.2	12.4	0.8	1.1	5.9	26.8	9.7	36.3	1.6	4.3
50 to 99 employees	–	22	1.4	18.1	0.7	1.3	6.9	42.2	20.1	61.6	2.7	5.3
100 to 249 employees	–	14	2.2	27.2	1.2	2.1	15.5	81.5	14.5	95.4	(11.2)	6.6
250 to 499 employees	–	6	2.1	28.1	1.2	2.3	15.5	73.2	22.3	95.7	(D)	10.5
500 to 999 employees	–	3	(3.5)	(46.5)	(1.3)	(2.5)	(14.8)	(116.4)	(36.0)	(152.0)	(D)	(9.9)
1,000 to 2,499 employees	–	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

– Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2711	**Newspapers:**										
	Entire industry	8 867	349.9	4 306.0	147.2	252.5	1 805.3	9 519.1	3 539.2	13 055.9	478.1
	Establishments with 75 percent specialization or more	8 258	326.9	4 082.1	135.3	231.9	1 701.8	9 056.2	3 340.3	12 394.7	451.6
27111	Daily and Sunday newspapers (subscriptions and sales):										
	Establishments with this product class primary	56	5.1	63.8	1.6	2.9	19.4	134.2	32.8	166.9	3.0
	Establishments with 75 percent specialization or more in class	27	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
27112	Daily and Sunday newspapers (advertising):										
	Establishments with this product class primary	1 443	277.1	3 581.0	112.9	194.9	1 513.4	8 011.6	2 942.9	10 953.9	397.8
	Establishments with 75 percent specialization or more in class	628	150.4	1 969.7	60.1	104.3	823.4	4 521.4	1 766.1	6 287.5	207.0
27113	Weekly and other newspapers (subscriptions and sales):										
	Establishments with this product class primary	175	4.2	45.6	2.0	3.9	17.5	125.5	65.1	190.1	4.8
	Establishments with 75 percent specialization or more in class	91	1.9	23.3	0.8	1.7	7.1	75.5	37.9	113.3	2.8
27114	Weekly and other newspapers (advertising):										
	Establishments with this product class primary	1 487	37.9	330.0	17.9	30.5	131.8	658.4	281.2	938.4	35.5
	Establishments with 75 percent specialization or more in class	821	18.3	161.9	8.0	14.0	56.1	332.1	134.0	465.7	16.6
2721	**Periodicals:**										
	Entire industry	2 994	69.9	1 019.8	10.6	20.5	115.7	3 762.7	2 289.2	6 056.5	78.9
	Establishments with 75 percent specialization or more	2 856	58.2	866.5	9.2	17.5	94.3	3 067.7	1 738.2	4 799.2	67.5
27211	Farm periodicals (subscriptions, sales, and advertising):										
	Establishments with this product class primary	49	2.0	24.2	0.5	0.9	4.1	73.9	35.7	109.3	1.0
	Establishments with 75 percent specialization or more in class	41	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
27213	Business and professional periodicals (subscriptions and sales)										
	Establishments with this product class primary	163	7.2	93.0	1.8	3.4	17.4	252.9	81.3	333.3	5.0
	Establishments with 75 percent specialization or more in class	125	5.6	70.7	1.3	2.5	12.4	182.0	59.0	240.4	4.0
27214	Business and professional periodicals (advertising):										
	Establishments with this product class primary	307	17.1	278.8	1.7	3.7	21.6	763.2	277.2	1 039.1	14.1
	Establishments with 75 percent specialization or more in class	250	10.1	165.4	1.1	2.6	12.5	466.3	188.3	653.2	6.3
27215	General and consumer periodicals (subscriptions and sales):										
	Establishments with this product class primary	177	12.5	170.7	1.6	3.0	16.0	900.7	669.3	1 572.6	28.3
	Establishments with 75 percent specialization or more in class	97	2.7	35.6	0.7	1.3	6.4	164.2	141.1	306.9	6.3
27216	General and consumer periodicals (advertising):										
	Establishments with this product class primary	140	15.6	258.5	1.1	2.6	13.6	1 277.7	923.0	2 189.8	16.2
	Establishments with 75 percent specialization or more in class	69	2.4	38.8	0.4	0.7	3.5	225.9	71.6	297.2	2.1
27217	Other periodicals (subscriptions, sales, and advertising):										
	Establishments with this product class primary	94	7.7	75.1	1.9	3.5	16.8	147.0	85.2	230.9	7.6
	Establishments with 75 percent specialization or more in class	74	5.0	52.5	1.2	2.2	10.9	97.1	50.5	146.5	4.6
2731	**Book publishing:**										
	Entire industry	1 745	59.5	830.2	13.3	24.9	140.1	3 261.9	1 544.2	4 793.9	79.8
	Establishments with 75 percent specialization or more	1 642	50.3	714.0	10.1	19.1	105.9	2 920.5	1 331.6	4 237.8	70.3
27311	Textbooks (including teachers' editions):										
	Establishments with this product class primary	132	18.2	268.4	2.2	4.2	23.2	1 087.0	434.4	1 541.6	24.7
	Establishments with 75 percent specialization or more in class	108	14.2	208.8	1.3	2.7	13.8	794.3	307.4	1 093.7	19.7
27313	Technical, scientific, and professional books:										
	Establishments with this product class primary	130	12.6	186.7	4.3	8.4	51.5	475.1	205.1	671.7	16.1
	Establishments with 75 percent specialization or more in class	100	8.7	133.3	3.7	7.0	42.8	315.5	113.4	423.3	12.0
27314	Religious books:										
	Establishments with this product class primary	62	4.9	52.9	1.7	3.1	16.3	136.2	118.7	251.7	6.7
	Establishments with 75 percent specialization or more in class	43	2.7	29.1	1.1	2.1	10.9	84.8	64.6	149.8	5.1
27315	General books (trade, etc.):										
	Establishments with this product class primary	135	12.2	175.6	2.0	4.1	24.0	1 070.3	532.9	1 582.6	18.4
	Establishments with 75 percent specialization or more in class	109	6.5	95.5	0.7	1.3	6.4	719.3	306.9	1 012.6	8.8
27317	General reference books:										
	Establishments with this product class primary	41	4.7	62.3	0.8	1.5	5.3	217.6	118.4	333.0	4.3
	Establishments with 75 percent specialization or more in class	31	3.9	51.8	0.5	0.9	2.2	192.9	104.4	294.5	(D)
27318	Other books, except pamphlets:										
	Establishments with this product class primary	36	1.1	13.7	0.3	0.5	2.9	43.6	19.4	60.7	1.7
	Establishments with 75 percent specialization or more in class	29	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
27319	Pamphlets (5 to 48 pages):										
	Establishments with this product class primary	25	0.7	8.0	0.2	0.4	1.9	21.0	10.3	31.2	0.3
	Establishments with 75 percent specialization or more in class	19	0.5	6.6	0.1	0.3	1.4	17.4	8.4	25.8	0.2
2732	**Book printing:**										
	Entire industry	950	46.9	548.2	37.6	72.6	404.1	1 029.2	662.6	1 691.8	54.3
	Establishments with 75 percent specialization or more	732	36.4	411.9	29.3	56.4	307.4	777.7	477.8	1 252.3	39.3
27321	Books, printing only, lithographic:										
	Establishments with this product class primary	120	4.0	47.6	3.2	6.0	35.7	86.1	59.2	144.8	8.1
	Establishments with 75 percent specialization or more in class	71	2.2	25.6	1.7	3.3	19.6	45.5	24.7	69.9	3.6
27322	Books, printing and binding, lithographic:										
	Establishments with this product class primary	255	29.8	345.5	24.2	46.9	260.6	666.3	423.1	1 085.5	28.0
	Establishments with 75 percent specialization or more in class	156	22.1	246.2	18.1	34.9	187.1	467.1	256.4	721.1	20.1
27328	Books, printing and binding, other than lithographic:										
	Establishments with this product class primary	60	2.8	29.7	2.2	4.2	20.2	59.6	29.5	89.8	2.8
	Establishments with 75 percent specialization or more in class	49	2.6	27.8	2.0	3.9	18.8	56.9	27.9	85.6	2.5
27329	Pamphlets, workbooks, and tests (printing and binding):										
	Establishments with this product class primary	189	5.4	70.2	4.2	8.2	48.4	121.4	83.0	203.2	8.3
	Establishments with 75 percent specialization or more in class	94	2.4	30.8	1.8	3.7	21.7	52.8	41.8	94.0	2.3

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2741	**Miscellaneous publishing:**										
	Entire industry	2 352	42.1	503.0	15.4	27.1	150.3	1 290.7	569.9	1 850.9	39.1
	Establishments with 75 percent specialization or more	2 247	38.7	458.7	14.1	24.4	136.0	1 211.4	529.2	1 728.6	36.3
27411	Catalogs and directories, publishing:										
	Establishments with this product class primary	142	8.0	87.9	2.5	4.9	26.7	245.6	165.4	407.9	2.4
	Establishments with 75 percent specialization or more in class	132	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
27412	Business service publishing:										
	Establishments with this product class primary	130	12.2	162.4	2.3	4.9	28.7	364.2	108.2	470.5	13.0
	Establishments with 75 percent specialization or more in class	110	8.4	112.4	2.0	3.9	23.5	243.7	78.3	320.5	11.2
27413	Other miscellaneous publishing:										
	Establishments with this product class primary	349	13.6	155.2	7.4	12.7	71.7	460.4	171.8	627.1	16.5
	Establishments with 75 percent specialization or more in class	318	11.2	130.7	6.0	10.4	59.7	391.6	129.0	514.6	13.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2711	Newspapers 1977	13,055.9	12,468.1	487.4	101.4	96	12,468.1	12,468.1	-	100
	1972	8,262.8	7,901.1	291.6	70.1	96	7,901.1	7,901.1	-	100
	1967	5,757.1	5,549.8	159.1	48.2	97	5,549.8	5,549.8	-	100
2721	Periodicals 1977	6,056.5	5,297.9	570.7	187.9	90	5,528.8	5,297.9	230.9	96
	1972	3,510.6	3,014.6	387.0	109.0	89	3,187.0	3,014.6	172.4	95
	1967	3,095.9	2,599.5	335.8	160.6	89	2,668.2	2,599.5	68.7	97
2731	Book publishing 1977	4,793.9	4,384.6	263.8	145.5	44	5,007.7	4,384.6	623.1	88
	1972	2,856.8	2,512.1	190.5	154.2	93	2,915.4	2,512.1	403.3	86
	1967	2,134.8	1,944.2	108.4	82.2	95	2,255.3	1,944.2	311.1	86
2732	Book printing 1977	1,691.8	1,424.2	244.8	22.8	85	1,830.6	1,424.2	406.4	78
	1972	937.7	762.9	153.8	21.0	83	1,049.9	762.9	287.0	73
	1967	787.4	626.6	149.7	11.1	81	900.3	626.6	273.7	70
2741	Miscellaneous publishing 1977	1,850.9	1,723.1	82.3	45.5	95	1,935.1	1,723.1	212.0	89
	1972	1,070.2	983.3	48.8	38.1	95	1,058.3	983.3	75.0	93
	1967	605.3	540.6	43.3	21.4	93	608.6	540.6	68.0	89

- Represents zero.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Newspapers (SIC 2711)	Periodicals (SIC 2721)	Book publishing (SIC 2731)	Book printing (SIC 2732)	Miscellaneous publishing (SIC 2741)	Other industries
	Total	(X)	13,055.9	6,056.5	4,793.9	1,691.8	1,850.9	(X)
	Primary products	(X)	12,468.1	5,297.9	4,384.6	1,424.2	1,723.1	(X)
	Secondary products	(X)	487.4	570.7	263.8	244.8	82.3	(X)
	Miscellaneous receipts	(X)	100.4	187.9	145.5	22.8	45.5	(X)
2711-	Newspapers	12,468.1	12,468.1	-	-	-	-	-
27111	Daily and Sunday newspapers (subscriptions and sales)	2,561.1	2,561.1	-	-	-	-	-
27112	Daily and Sunday newspapers (advertising)	8,140.5	8,140.5	-	-	-	-	-
27113	Weekly and other newspapers (subscriptions and sales)	240.6	240.6	-	-	-	-	-
27114	Weekly and other newspapers (advertising)	734.5	734.5	-	-	-	-	-
27110	Newspapers, n.s.k	791.4	791.4	-	-	-	-	-
2721-	Periodicals	5,528.8	16.6	5,297.9	152.2	-	39.4	22.7
27211	Farm periodicals (subscriptions, sales, and advertising)	107.5	(D)	94.8	-	-	(D)	(D)
27213	Business, and professional periodicals, (subscriptions and sales)	451.3	.8	379.6	54.8	-	(D)	(D)
27214	Business and professional periodicals (advertising)	850.2	(D)	827.0	13.8	-	7.1	(D)
27215	General and consumer periodicals (subscriptions and sales)	1,680.1	.3	1,652.1	(D)	-	8.9	(D)
27216	General and consumer periodicals (advertising)	1,595.5	1.3	1,583.6	(D)	-	1.9	(D)
27217	Other periodicals (subscriptions, sales, and advertising)	269.2	8.4	190.3	62.2	-	(D)	(D)
27210	Periodicals, n.s.k	575.0	1.8	570.5	.7	-	(D)	(D)
2731-	Book publishing	5,007.7	9.7	504.5	4,384.6	-	23.1	85.9
27311	Textbooks (including teachers' editions)	1,408.7	.7	2.0	1,403.0	-	(D)	(D)
27313	Technical, scientific, and professional books	684.1	1.7	45.1	618.9	-	3.8	14.6
27314	Religious books	236.3	(D)	19.9	206.1	-	4.3	(D)
27315	General books (trade, etc)	1,895.6	(D)	424.0	1,408.5	-	(D)	(D)
27317	General reference books	305.4	(D)	5.0	294.3	-	(D)	(D)
27318	Other books, except pamphlets	110.4	(D)	(D)	94.6	-	(D)	(D)
27319	Pamphlets (5 to 48 pages)	49.1	(D)	2.7	42.4	-	3.4	(D)
27310	Book publishing, n.s.k	318.1	.8	(D)	316.9	-	(D)	(D)
2732-	Book printing	1,830.6	1.9	1.0	(D)	1,424.2	(D)	397.0
27321	Books, printing only, lithographic	173.0	(D)	(D)	(D)	113.5	(D)	54.2
27322	Books, printing and binding, lithographic	980.0	(D)	(D)	(D)	856.4	(D)	120.7
27328	Books, printing and binding, other than lithographic	158.5	(D)	(D)	(D)	111.1	(D)	(D)
27329	Pamphlets, workbooks, and tests (printing and binding)	358.6	(D)	(D)	-	185.1	-	172.8
27320	Book printing, n.s.k	160.5	(D)	-	(D)	158.1	-	(D)
2741-	Miscellaneous publishing	1,935.1	69.9	54.0	61.8	(D)	1,723.1	(D)
27411	Catalogs and directories, publishing	456.9	(D)	29.3	1.4	-	422.6	(D)
27412	Business service publishing	416.7	(D)	12.2	2.3	-	399.6	(D)
27413	Other miscellaneous publishing	727.0	66.6	11.7	57.9	(D)	568.1	(D)
27410	Miscellaneous publishing, n.s.k	334.5	.2	.7	.3	-	332.9	.4
	Other shipments by 4-digit product group:							
2751-	Commercial printing, letterpress	(X)	91.9	1.5	(D)	56.5	1.9	(X)
2752-	Commercial printing, lithographic	(X)	281.9	7.3	(D)	168.1	(D)	(X)
2753-	Engraving and plate printing	(X)	(D)	-	-	2.2	-	(X)
2754-	Commercial printing, gravure	(X)	4.3	-	-	.7	(D)	(X)
2761-	Manifold business forms	(X)	(D)	-	-	(D)	(D)	(X)
2791-	Typesetting	(X)	(D)	(D)	.4	(D)	-	(X)
2793-	Photoengraving	(X)	4.0	-	(D)	.4	-	(X)
2795-	Lithographic platemaking services	(X)	(D)	-	-	(D)	-	(X)
3832-	Optical instruments and lenses	(X)	-	-	(D)	-	-	(X)
3944-	Games, toys, and children's vehicles	(X)	-	-	(D)	-	-	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	.4	2.6	(D)	-	1.6	(X)
99980 13	Sales of scrap and refuse	(X)	12.7	(D)	(Z)	4.8	.2	(X)
99980 41	Receipts for research and development work	(X)	.9	1.1	(D)	-	(D)	(X)
99980 00	Miscellaneous receipts, including receipts for repair work, sale of scrap and refuse, etc	(X)	6.7	(D)	(D)	1.6	(D)	(X)
99980 98	Other miscellaneous receipts, including receipts for repair work, etc	(X)	48.8	77.6	42.7	3.6	13.9	(X)
99989 00	Resales	(X)	31.9	93.8	71.1	12.8	24.4	(X)

See footnotes at end of table.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
2721-	2752 Commerical printing, lithographic	(D)	2732-	2751 Commercial printing, letterpress	41.3
2731-	2771 Greeting card publishing	(D)		2752 Commercial printing, lithographic	350.1
	3662 Radio and TV communication equipment	(D)	2741-	2752 Commercial printing, lithographic	5.0
	3999 Manufacturing industries, n.e.c	(D)		2771 Greeting card publishing	16.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity Sold and Value of Receipts of All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of receipts)

1977 product code	Product	1977[1] Number of companies with receipts of $100,000 or more	1977[1] Aggregate average circulation per issue[2 3] (1,000)	1977[1] Total receipts (million dollars)	1972 Aggregate average circulation per issue[2 3] (1,000)	1972 Total receipts (million dollars)
	NEWSPAPERS					
2711- --	Total[4]	(NA)	(X)	12,468.1	(X)	7,901.1
27111 --	Daily and Sunday newspapers, receipts from subscriptions and sales	(NA)	(X)	2,561.1	(X)	1,746.8
27111 01	Morning (no Sunday editions)	72	4,447	149.6	3,770	96.4
27111 11	Evening (no Sunday editions)	403	12,171	327.0	12,917	273.3
27111 22	Morning and Sunday:					
	Morning editions	86	14,384	678.7	13,683	465.1
	Sunday editions		17,230		18,043	
27111 32	Evening and Sunday:					
	Evening editions	194	14,906	576.6	14,221	387.8
	Sunday editions		16,416		16,136	
27111 42	Morning and evening (no Sunday editions):					
	Morning editions	18	244	15.2	353	17.6
	Evening editions		305		412	
27111 52	Morning, evening, and Sunday:					
	Morning editions	93	12,345	804.2	10,949	502.9
	Evening editions		9,791		8,691	
	Sunday editions		19,223		17,766	
27111 00	Daily and Sunday newspapers, receipts from subscriptions and sales, n.s.k.	(NA)	(X)	9.8	(X)	3.7
27112 --	Daily and Sunday newspapers, receipts from advertising	(NA)	(X)	8,140.5	(X)	5,213.8
27112 01	Morning (no Sunday editions)	83	(X)	281.1	(X)	183.9
27112 11	Evening (no Sunday editions)	477	(X)	933.4	(X)	747.9
27112 22	Morning and Sunday	96	(X)	2,021.7	(X)	1,341.0
27112 32	Evening and Sunday	226	(X)	1,975.0	(X)	1,253.7
27112 42	Morning and evening (no Sunday editions)	19	(X)	44.4	(X)	45.3
27112 52	Morning, evening, and Sunday	93	(X)	2,861.3	(X)	1,633.8
27112 00	Daily and Sunday newspapers, receipts from advertising, n.s.k.	(NA)	(X)	23.6	(X)	8.2
27113 --	Weekly and other newspapers, receipts from subscriptions and sales	(NA)	(X)	240.6	(X)	106.9
27113 62	Weekly newspapers, including those issued on Sunday only	206	39,006	196.6	(4)	86.0
27113 98	Other newspapers, including those issued more than once a week but less than four times a week, and those issued less than once a week	74	7,596	27.2	(4)	20.9
27113 00	Weekly and other newspapers, receipts from subscriptions and sales, n.s.k.	(NA)	(X)	16.8	(X)	-
27114 --	Weekly and other newspapers, receipts from advertising	(NA)	(X)	734.5	(X)	386.5
27114 62	Weekly newspapers, including those issued on Sunday only	841	(X)	480.8	(X)	290.7
27114 98	Other newspapers, including those issued more than once a week but less than four times a week, and those issued less than once a week	247	(X)	186.0	(X)	95.8
27114 00	Weekly and other newspapers, receipts from advertising, n.s.k.	(NA)	(X)	67.7	(X)	-
27110 00	Newspapers not specified by frequency and receipts undistributed between subscriptions and sales and advertising, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	431.7	(X)	178.0
27110 02	Newspapers not specified by frequency and receipts undistributed between subscriptions and sales and advertising, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	359.7	(X)	269.1

1977 product code	Product	Unit of measure	1977[1] Number of companies with receipts of $100,000 or more	1977[1] Quantity sold[2]	1977[1] Value of receipts (million dollars)	1972 Quantity sold[2]	1972 Value of receipts (million dollars)
	PERIODICALS						
2721- --	Total	.....	(NA)	(X)	5,528.8	(X)	3,187.0
27211 --	Farm periodicals, receipts from subscriptions, sales, and advertising	.....	(NA)	(X)	107.5	(X)	75.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity Sold and Value of Receipts of All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of receipts)

1977 product code	Product	Unit of measure	1977[1]			1972	
			Number of companies with shipments of $100,000 or more	Quantity sold[2]	Value of receipts (million dollars)	Quantity sold[2]	Value of receipts (million dollars)
2721- --	PERIODICALS--Con.						
27211 --	Farm periodicals, receipts from subscriptions, sales, and advertising--Con.						
	Paid circulation:						
	General (agriculture, farmlife, etc.):						
27211 21	Subscription and single copy receipts	Aggregate avg. cir. per issue (1,000)	16	4,190	8.3		
27211 25	Advertising receipts	...	14	(X)	48.7		
	Specialized (stockbreeding, animal, produce, cash crop marketing, fisheries, hunting, etc.):						
27211 31	Subscription and single copy receipts	Aggregate avg. cir. per issue (1,000)	13	**2,235	7.9		
27211 35	Advertising receipts	...	11	(X)	22.7	(X)	75.9
	Controlled circulation, advertising receipts and copy sales:						
27211 41	General (agriculture, farmlife, etc.)	Aggregate avg. cir. per issue (1,000)	9	(S)	4.0		
27211 51	Specialized (stockbreeding, animal, produce, cash crop marketing, fisheries, hunting, etc.)	Aggregate avg. cir. per issue (1,000)	11	(S)	14.2		
27211 00	Farm periodicals, receipts from subscriptions, sales, and advertising, n.s.k	...	(NA)	(X)	1.7		
27213 --	Business publications, and professional journals, receipts from subscriptions and sales	...	(NA)	(X)	451.3	(X)	262.2
	Business publications, paid circulation:						
27213 21	Manufacturing industries	Aggregate avg. cir. per issue (1,000)	5	(S)	26.4		
27213 23	Mining and construction industries		8				
27213 25	Wholesale and retail trade, including merchandising		16	(S)	41.8		
27213 27	Medical and health care		23	*2,789	41.7		
27213 29	Business publications, n.e.c		90	(S)	160.0		
	Business publications, controlled circulation:					(X)	259.1
27213 31	Manufacturing industries		11	5,910	7.5		
27213 33	Mining and construction industries		2	(S)	.7		
27213 35	Wholesale and retail trade, including merchandising		8	(S)	5.0		
27213 37	Medical and health care		7	**3,080	4.8		
27213 39	Business publications, n.e.c		34	(S)	47.5		
	Professional, institutional, and service journals:	Aggregate avg. cir. per issue (1,000)					
27213 41	Issued six or less times per year		31	(S)	40.5		
27213 45	Issued more than six times per year		35	(S)	61.5		
27213 00	Business publications and professional journals, receipts from subscriptions and sales, n.s.k	...	(NA)	(X)	13.9	(X)	3.1
27214 --	Business publications and professional journals, receipts from advertising	...	(NA)	(X)	850.2	(X)	647.9
	Business publications, paid circulation:						
27214 21	Manufacturing industries	...	7	(X)	78.5		
27214 23	Mining and construction industries	...	6				
27214 25	Wholesale and retail trade, including merchandising	...	18	(X)	71.3		
27214 27	Medical and health care	...	18	(X)	38.5		
27214 29	Business publications, n.e.c	...	65	(X)	108.9		
	Business publications, controlled circulation:						
27214 31	Manufacturing industries	...	33	(X)	118.8	(X)	646.1
27214 33	Mining and construction industries	...	19	(X)	42.6		
27214 35	Wholesale and retail trade, including merchandising	...	37	(X)	82.8		
27214 37	Medical and health care	...	17	(X)	49.1		
27214 39	Business publications, n.e.c	...	104	(X)	177.2		
	Professional, institutional, and service journals:						
27214 41	Issued six or less times per year	...	11	(X)	16.5		
27214 45	Issued more than six times per year	...	21	(X)	26.2		
27214 00	Business publications and professional journals, receipts from advertising, n.s.k	...	(NA)	(X)	39.8	(X)	1.8
27215 --	General and consumer periodicals, receipts from subscriptions and sales	...	(NA)	(X)	1,680.1	(X)	832.8
27215 14	Comics issued periodically in frequencies up to and including yearly, excluding comic supplements for Sunday newspapers	Aggregate avg. cir. per issue (1,000)	6	(S)	33.1	(S)	20.9
	Women's, home fashion, and other services (women's fashion and domestic science, housekeeping, home, and garden management):						
27215 43	Subscription	Aggregate avg. cir. per issue (1,000)	22	218,405	196.9	(S)	82.6
27215 45	Single copy		22	148,808	185.0	(S)	110.7

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity Sold and Value of Receipts of All Producers: 1977 and 1972**—Continued

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of receipts)

1977 product code	Product	Unit of measure	1977[1]			1972	
			Number of companies with receipts of $100,000 or more	Quantity sold[2]	Value of receipts (million dollars)	Quantity sold[2]	Value of receipts (million dollars)
2721- --	PERIODICALS--Con.						
27215 --	General and consumer periodicals, receipts from subscriptions and sales--Con.						
	Special interest publications (primarily hobby, entertainment (including art), photography, fishing, hunting, mechanics, science, tennis, golf, skiing, boating, aviation, other outdoor and sport activities, and automotive):						
27215 51	Subscription	Aggregate avg. cir. per issue (1,000)	96	*38,178	242.8		
27215 54	Single copy		81	*46,998	211.5		
	General interest publications, including general articles, pictures, fiction, literature, geography, travel, history, biography, and humor:					(S)	481.3
27215 56	Subscription		52	46,658	300.3		
27215 58	Single copy		40	20,808	187.3		
	General news, including weeklies and biweeklies with news of interest to the general public:						
27215 63	Subscription		19	11,697	183.4	16,934	94.6
27215 65	Single copy		13	3,736	76.0	2,671	16.2
27215 74	Business news concerning business and industry, but directed to a broader readership than those engaged in business for a living: subscription and single copy	Aggregate avg. cir. per issue (1,000)	10	*2,016	37.0	1,489	20.7
27215 00	General periodicals, receipts from subscriptions and sales, n.s.k.	.....	(NA)	(X)	26.8	(X)	5.8
27216 --	General and consumer periodicals, receipts from advertising	.....	(NA)	(X)	1,595.5	(X)	895.7
27216 13	Comics issued periodically in frequencies up to and including yearly, excluding comic supplements for Sunday newspapers	.....	4	(X)	1.9	(X)	(D)
27216 43	Women, home fashion, and other services (women's fashion and domestic science, housekeeping, home, and garden management)	.....	30	(X)	487.4	(X)	294.6
27216 52	Special interest publications (primarily hobby, entertainment (including art), photography, fishing, hunting, mechanics, science, tennis, golf, skiing, boating, aviation, other outdoor and sport activities, and automotive)	.....	93	(X)	455.7		
27216 54	General interest publications, including general articles, pictures, fiction, literature, geography, travel, history, biography, and humor	.....	56	(X)	252.6	(X)	373.9
27216 63	General news, including weeklies and biweeklies with news of interest to the general public	.....	27	(X)	294.3	(X)	212.1
27216 73	Business news concerning business and industry, but directed to a broader readership than those engaged in business for a living	.....	10	(X)	(D)	(X)	12.4
27216 00	General periodicals, receipts from advertising, n.s.k.	.....	(NA)	(X)	(D)	(X)	(D)
27217 --	Other periodicals, except shopping news, directories, or catalogs, n.e.c., receipts from subscriptions, sales, and advertising	.....	(NA)	(X)	269.2	(X)	282.1
	Religious (religion, theology, church bulletins, local church papers, etc.):						
27217 03	Receipts from subscriptions and single copy sales	Aggregate avg. cir. per issue (1,000)	58	(S)	104.1	(S)	91.3
27217 33	Receipts from advertising	.....	21	(X)	18.2	(X)	11.1
	Magazine and comic supplements for Sunday newspapers:						
27217 05	Receipts from subscriptions and single copy sales	Aggregate avg. cir. per issue (1,000)	(NA)	(D)	(D)	16,828	9.3
27217 35	Receipts from advertising	.....	(NA)	(X)	(D)	(X)	37.1
	Periodicals, n.e.c., except shopping news, directories, or catalogs, but including periodicals such as children's and youth magazines, house organs, fraternal and club, etc.:						
27217 07	Receipts from subscriptions	Aggregate avg. cir. per issue (1,000)	29	36,681	98.8	(S)	79.3
27217 08	Receipts from single copy sales	Aggregate avg. cir. per issue (1,000)	13	(S)	12.4	(S)	9.2
27217 37	Receipts from advertising	.....	22	(X)	23.7	(X)	39.9
27217 00	Other periodicals, except shopping news, directories, or catalogs, n.e.c., n.s.k.	.....	(NA)	(X)	(D)	(X)	4.9
27210 00	Periodicals, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	392.1	(X)	53.8
27210 02	Periodicals, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	182.9	(X)	136.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity Sold and Value of Receipts of All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of receipts)

1977 product code	Product	Unit of measure	1977[1]			1972	
			Number of companies with receipts of $100,000 or more	Quantity sold[2]	Value of receipts (million dollars)	Quantity sold[2]	Value of receipts (million dollars)
	BOOK PUBLISHING						
2731- --	Total	.....	(NA)	(X)	5,007.7	(X)	2,915.4
27311 --	Textbooks, including teachers' editions	.....	(NA)	(X)	1,408.7	(X)	809.6
	Elementary textbooks (grades k-8):						
27311 11	Hardbound, including teachers' editions	Million.....	28	**65.0	252.5	65.8	162.4
27311 12	Paperbound, including teachers' editions		32	**45.0	97.0	44.5	57.5
	High school textbooks (grades 9-12):						
27311 13	Hardbound, including teachers' editions		29	**33.5	180.1	40.5	132.4
27311 14	Paperbound, including teachers' editions		27	**9.8	28.4	7.3	12.8
	College textbooks, grades 13 and over, including private business and secretarial school, post high school vocational schools, institutes, and training courses of college grade:						
27311 15	Hardbound		46	*57.2	465.9	57.1	277.3
27311 16	Paperbound		42	*23.6	113.1	(S)	45.1
	Workbooks, objective tests, manuals, etc., paperbound:						
27311 21	Elementary (grades k-8)		30	*78.4	158.4	69.7	53.8
27311 23	High school (grades 9-12)		21	(S)	46.0	21.3	23.4
27311 25	College		14	5.6	16.4	6.1	11.5
27311 31	Standardized tests, including both tests and answer sheets, but excluding textbook-related objective tests and manuals, paperbound	Million.....	6	(S)	27.1	24.1	14.2
27311 00	Textbooks, n.s.k	.....	(NA)	(X)	23.8	(X)	19.2
27313 --	Technical, scientific, and professional books	.....	(NA)	(X)	684.1	(X)	403.0
	Law books, including supplements (designed for the profession):						
27313 15	Hardbound	Million.....	23	11.1	211.0	8.6	114.9
27313 17	Paperbound		13	*4.9	55.8	(S)	32.0
	Medical books, including nursing and dental subjects (designed for the profession):						
27313 25	Hardbound		20	*9.6	124.7	7.6	64.0
27313 27	Paperbound		11	*1.6	15.8	(S)	8.2
	Business books (nonfiction books on business for adult readers in the profession):						
27313 35	Hardbound		15	2.4	27.8	4.2	37.9
27313 37	Paperbound		7	2.3	6.2	1.1	4.1
	Other technical, scientific, and professional books:						
27313 45	Hardbound		55	**11.1	156.2	(S)	67.1
27313 47	Paperbound	Million.....	37	18.7	56.8	25.0	54.9
27313 00	Technical, scientific, and professional books, n.s.k	.....	(NA)	(X)	29.8	(X)	19.9
27314 --	Religious books	.....	(NA)	(X)	236.3	(X)	131.2
	Bibles and testaments:						
27314 11	Hardbound, including flexible	Million.....	22	14.7	75.1	29.3	52.6
27314 13	Paperbound		9	4.7	7.7		
27314 23	Hymnals and devotionals, including prayer books and missals, hardbound and paperbound		14	*9.2	21.0	6.6	9.0
	Other religious books, including books of fiction or nonfiction dealing with religious subjects for adult and juvenile reading:						
27314 25	Hardbound		36	*22.8	68.9	18.3	30.0
27314 27	Paperbound	Million.....	36	*48.3	52.2	39.7	28.3
27314 00	Religious books, n.s.k	.....	(NA)	(X)	11.4	(X)	11.3
27315 --	General books (trade, etc.)	.....	(NA)	(X)	1,895.6	(X)	1,006.7
	Adult trade books (fiction or nonfiction sold primarily through retail or wholesale booksellers at trade discounts):						
27315 41	Hardbound	Million.....	72	*91.3	382.6	(S)	232.1
27315 43	Paperbound[5]		64	75.1	144.2	[5]385.8	[5]220.5
	Book club books:						
27315 15	Hardbound		19	146.8	343.3	31.0	98.0
27315 17	Paperbound		8			81.2	33.3
27315 71	Mail order books, hardbound and paperbound		30	37.4	362.3	44.9	198.2
27315 31	Mass market paperbound books, usually of rack size, distributed predominantly to mass market outlets[5]		21	566.7	460.1	[5]159.8	[5]90.3
	Juvenile books, fiction and nonfiction, excluding toy and coloring books:						
27315 51	Hardbound[6]		39	49.7	121.9	[6]49.0	[6]79.8
27315 53	Paperbound[6]	Million.....	18	64.9	39.3	[6]14.8	[6]8.4
27315 00	General books (trade, etc.), n.s.k.[6]	.....	(NA)	(X)	41.9	(X)	[6]46.1
27317 --	General reference books	.....	(NA)	(X)	305.4	(X)	235.3
	Subscription reference books:						
27317 21	Encyclopedias	Million.....	15	(S)	195.4	12.7	166.9
27317 23	Religious		5	(S)	5.3	(S)	3.6
27317 25	Other	Million.....	9	(S)	25.1	12.6	28.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity Sold and Value of Receipts of All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of receipts)

1977 product code	Product	Unit of measure	1977[1] Number of companies with receipts of $100,000 or more	1977[1] Quantity sold[2]	1977[1] Value of receipts (million dollars)	1972 Quantity sold[2]	1972 Value of receipts (million dollars)
2731- --	BOOK PUBLISHING--Con.						
27317 --	General reference books--Con.						
	Other reference books:						
27317 41	Dictionaries and thesauruses	Million	15	5.7	32.3	5.7	12.7
27317 43	Atlases		5	2.2	3.1	(S)	1.2
27317 49	Other	Million	27	(S)	38.6	(S)	19.5
27317 00	General reference books, n.s.k		(NA)	(X)	5.6	(X)	3.4
27318 --	Other books, excluding pamphlets		(NA)	(X)	110.4	(X)	125.4
	Music books:						
27318 12	Hardbound	Million	5	1.7	2.3	(S)	2.9
27318 14	Paperbound		17	12.2	21.2	15.4	10.3
27318 11	University press books, hardbound and paperbound		6	1.5	10.7	[7]28.8	[7]87.0
	Other books, n.e.c.:						
27318 17	Hardbound		11	14.1	63.4		
27318 19	Paperbound	Million	14	(S)	6.8		
27318 00	Other books, excluding pamphlets, n.s.k		(NA)	(X)	6.0	(X)	25.2
27319 --	Pamphlets (5-48 pages)		(NA)	(X)	49.1	(X)	48.7
27319 43	Music	Million	13	**33.9	30.3	20.1	6.2
27319 59	Other, including religious and text	Million	13	**157.1	14.2	444.2	42.5
27319 00	Pamphlets, n.s.k		(NA)	(X)	4.6	(X)	-
27310 00	Book publishing, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	195.4	(X)	94.8
27310 02	Book publishing, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	122.7	(X)	60.7

1977 product code	Product	1977 Number of companies with receipts of $100,000 or more	1977 Value of receipts[8] (million dollars)	1972, value of receipts (million dollars)
	BOOK PRINTING			
2732- --	Total	(NA)	1,830.6	1,049.9
27321 --	Books, printing only, lithographic	(NA)	173.0	108.9
27321 11	Elementary and high school textbooks (hardbound and paperbound), for grades K through 12, and textbook-related teachers' editions and manuals, excluding workbooks, standardized tests, and objective tests	32	38.8	18.5
27321 13	Technical, scientific, business, and professional books, and college textbooks, excluding workbooks, for grades 13 and over, including private business and secretarial schools, post-high school vocational schools, institutes, and training courses	51	24.6	21.8
27321 15	General consumer and trade books, including adult and juvenile trade books, book club and direct mail books, and wholesaled paperbound books	51	49.5	31.1
27321 18	All other books, n.e.c., including subscription reference books, religious books, and dictionaries (Bibles, testaments, hymnals, devotionals, thesauruses, atlases, etc.)	55	30.9	24.4
27321 00	Books, printing only, lithographic, n.s.k	(NA)	29.2	13.0
27322 --	Books, printing and binding, lithographic	(NA)	980.0	489.5
	Elementary and high school textbooks:			
27322 21	Hardbound	19	63.2	55.2
27322 23	Paperbound	29	41.8	21.9
	College textbooks:			
27322 24	Hardbound	18	51.6	98.5
27322 26	Paperbound	32	33.5	
	Technical, scientific, business, and professional books:			
27322 28	Hardbound	42	72.9	
27322 29	Paperbound	101	83.6	
	General consumer and trade books:			
27322 32	Hardbound	27	135.6	102.2
27322 34	Paperbound	79	109.1	40.1
	Subscription reference books, including encyclopedias, religious subscription reference books, and other subscription reference books:			
27322 36	Hardbound	11	56.5	41.5
27322 38	Paperbound	21	17.1	3.9
	All other books, n.e.c., including religious books and dictionaries (Bibles, testaments, hymnals, devotionals, thesauruses, atlases, etc.):			
27322 42	Hardbound	43	174.3	77.9
27322 44	Paperbound	67	84.1	27.6
27322 00	Books, printing and binding, lithographic, n.s.k	(NA)	56.7	20.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity Sold and Value of Receipts of All Producers: 1977 and 1972**—Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of receipts)

1977 product code	Product	1977		1972, value of receipts (million dollars)
		Number of companies with receipts of $100,000 or more	Value of product receipts[8] (million dollars)	
2732- --	BOOK PRINTING--Con.			
27328 --	Books, printing only or printing and binding, other than lithographic	(NA)	158.5	135.8
27328 11	Printing only, books, all types	19	14.4	20.7
	Printing and binding:			
	Letterpress printing (not including flexographic and/or belt-type printing):			
	Technical, scientific, business, and professional books, and college textbooks:			
27328 13	Hardbound	3	1.0	
27328 15	Paperbound	5	1.4	
	General consumer and trade books:			
27328 16	Hardbound	6	[9]21.8	
27328 18	Paperbound	[10]7	[10]57.6	
27328 21	Mass market paperbound books			
	All other books, including elementary and high school textbooks, and subscription reference books:			
27328 24	Hardbound	5	([9])	
27328 26	Paperbound	3	.8	[11]115.1
	Flexographic printing, including belt-type:			
27328 31	Mass market paperbound	([10])	([10])	
	All other books:			
27328 34	Hardbound	6	27.9	
27328 36	Paperbound	5	13.9	
	All other printing processes, including gravure and screen:			
27328 51	Hardbound	7	6.1	
27328 55	Paperbound			
27328 00	Books, printing only or printing and binding, other than lithographic, n.s.k.	(NA)	13.6	
27329 --	Pamphlets, workbooks, and tests, printing only or printing and binding	(NA)	358.6	223.5
	Lithographic printing:			
	Pamphlets (at least 5 but less than 49 pages, exclusive of covers), excluding advertising circulars and pamphlets:			
27329 21	Printing only	122	68.0	63.8
27329 23	Printing and binding	307	154.8	93.8
	Workbooks and tests:			
27329 31	Printing only	22	8.9	4.5
27329 33	Printing and binding	59	76.6	35.7
27329 51	Other than lithographic printing (both printing only or printing and binding)	16	10.0	25.7
27329 00	Pamphlets, workbooks, and tests, printing only or printing and binding, n.s.k.	(NA)	40.3	-
27320 00	Book printing, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	136.4	81.3
27320 02	Book printing, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	24.1	10.9

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with receipts of $100,000 or more	Product receipts[1]		Product receipts	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MISCELLANEOUS PUBLISHING						
2741- --	Total		(NA)	(X)	1,935.1	(X)	1,058.3
27411 --	Catalogs and directories, publishing		(NA)	(X)	456.9	(X)	244.1
	Directories:						
27411 13	Telephone	1,000 copies sold.	32	(S)	229.9	(X)	117.5
27411 15	Other, including business reference services		67	(S)	138.9	(X)	72.1
27411 21	Catalogs	1,000 copies sold.	26	(S)	76.8	(X)	52.4
27411 00	Catalogs and directories, publishing, n.s.k.		(NA)	(X)	11.3	(X)	2.1
27412 --	Business service publications		(NA)	(X)	416.7	(X)	241.9
27412 13	Business service newsletters, excluding publications cumulated in looseleaf index form	1,000 copies sold.	51	(S)	169.2	(X)	44.9
27412 15	Other business service publications, looseleaf and hardbound, including tax, credit, and government regulations, cumulative indexes, etc	1,000 copies sold.	41	(S)	226.7	(X)	192.4
27412 00	Business service publications, n.s.k.		(NA)	(X)	20.8	(X)	4.6
27413 --	Other miscellaneous publishing		(NA)	(X)	727.0	(X)	401.1
27413 11	Cards, other than greeting cards, including picture postcards, souvenir cards, etc	1,000 copies sold.	9	(S)	15.1	(X)	12.6

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity Sold and Value of Receipts of All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of receipts)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product receipts[1]		Product receipts	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
2741- --	MISCELLANEOUS PUBLISHING--Con.						
27413 --	Other miscellaneous publishing--Con.						
27413 21	Shopping news	1,000 copies sold.	212	(S)	154.6	(X)	73.7
27413 31	Sheet music (less than 5 pages), except music in book or pamphlet form		25	(S)	35.3	(X)	18.7
27413 65	Maps, hydrographic charts, gazetteers, and globe covers		29	(S)	47.9	(X)	61.3
27413 95	Racing forms		5	(S)	([12])	(X)	32.5
27413 97	Micropublishing, including publishing of original material as well as republishing of printed matter in microform		19	(S)	80.2	(X)	10.2
27413 96	Patterns, including clothing patterns		12	(S)	146.9	(X)	185.5
27413 98	Other miscellaneous publications, (almanacs, yearbooks, etc.)	1,000 copies sold.	68	(S)	[12]204.9		
27413 00	Other miscellaneous publishing, n.s.k.	.....	(NA)	(X)	42.1	(X)	6.6
27410 00	Miscellaneous publishing, n.s.k., typically for companies with 5 employees or more (see note)	.....	(NA)	(X)	247.7	(X)	95.7
27410 02	Miscellaneous publishing, n.s.k., typically for companies with less than 5 employees (see note)	.....	(NA)	(X)	86.8	(X)	75.5

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Quantity and value reported by all producers of product, not just those with receipts of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figures * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Includes paid, free, bulk, etc. "Issue" means the sum of all editions published on a given day in the case of establishments publishing newspapers on a combined frequency-of-issue basis (morning and Sunday, evening and Sunday, etc.). Separate average circulation figures were computed for morning editions, evening editions, and Sunday editions.

[4]Circulation data for weekly and other newspapers not shown because information was not reported by many small newspapers.

[5]For 1977, the term "mass market paperbound books" was introduced, replacing the 1972 term "wholesale paperbound books." The old term appears to have caused a misclassification of books between adult trade paperbound books and wholesale paperbound books in 1972.

[6]For 1972, data for mass merchandised juvenile books were collected separately but included with data for "general books (trade, etc.), n.s.k.," to avoid disclosing operations of individual companies. For 1977, data for mass merchandised juvenile books were included with "juvenile books, fiction and nonfiction, excluding toy and coloring books."

[7]For 1972, data for university press books were not collected separately but were included with data for "other books, n.e.c."

[8]Value reported by all producers of product, not just those with receipts of $100,000 or more.

9For 1977, product code 27328 16 was combined with product code 27328 24.

[10]For 1977, product code 27328 31 was combined with product code 27328 21.

[11]For 1972, for receipts detail, see 1972 Census of Manufactures Volume II, Industry Statistics, Part 2, table 6A, pp. 27A-32 and 33. 1977 format revision precluded showing 1972 data here.

[12]For 1977, product code 27413 95 was included with product code 27413 98.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
27111, DAILY AND SUNDAY NEWSPAPERS (SUBSCRIPTIONS AND SALES)		
United States	2,561.1	1,746.8
New England Division:		
Maine	14.1	CC
New Hampshire	7.8	5.8
Vermont	5.7	BB
Massachusetts	127.0	96.0
Rhode Island	18.4	12.5
Connecticut	44.4	31.9
Middle Atlantic Division:		
New York	352.5	256.4
New Jersey	79.2	59.0
Pennsylvania	181.7	131.2
East North Central Division:		
Ohio	147.4	104.1
Indiana	61.0	45.3
Illinois	146.1	102.5
Michigan	122.8	84.0
Wisconsin	56.7	37.3
West North Central Division:		
Minnesota	46.8	33.6
Iowa	35.7	25.6
Missouri	48.1	36.8
North Dakota	7.1	4.4
South Dakota	5.7	4.0
Nebraska	16.4	12.1
Kansas	16.6	11.2
South Atlantic Division:		
Maryland	37.0	25.2
Virginia	31.6	26.1
West Virginia	22.0	11.4
North Carolina	41.2	26.5
South Carolina	18.9	10.6
Georgia	35.5	23.5
Florida	90.5	54.6
East South Central Division:		
Kentucky	25.5	16.6
Tennessee	46.0	26.8
Alabama	21.8	15.1
Mississippi	10.8	5.6
West South Central Division:		
Arkansas	11.1	7.8
Louisiana	23.2	18.8
Oklahoma	20.8	13.9
Texas	98.0	57.7
Mountain Division:		
Montana	7.6	BB
Idaho	7.5	4.3
Wyoming	2.6	1.4
Colorado	23.8	15.5
New Mexico	7.3	4.2
Arizona	23.5	16.1
Utah	10.7	7.8
Pacific Division:		
Washington	42.8	29.9
Oregon	21.6	13.1
California	257.7	155.3
27112, DAILY AND SUNDAY NEWSPAPERS (ADVERTISING)		
United States	8,140.5	5,213.8
New England Division:		
Maine	23.9	15.7
New Hampshire	18.0	11.7
Vermont	10.7	8.3
Massachusetts	254.4	172.3
Rhode Island	41.7	29.4
Connecticut	115.8	79.6
27112, DAILY AND SUNDAY NEWSPAPERS (ADVERTISING)--Con.		
Middle Atlantic Division:		
New York	813.2	575.1
New Jersey	232.0	162.0
Pennsylvania	458.3	305.9
East North Central Division:		
Ohio	454.1	307.8
Indiana	183.6	120.8
Illinois	463.2	300.1
Michigan	314.3	217.5
Wisconsin	145.3	97.9
West North Central Division:		
Minnesota	144.6	90.0
Iowa	88.6	54.5
Missouri	171.4	125.8
North Dakota	18.1	9.9
South Dakota	14.7	9.1
Nebraska	55.8	34.1
Kansas	58.9	35.8
South Atlantic Division:		
Maryland	108.9	71.6
Virginia	116.4	75.6
West Virginia	40.9	28.4
North Carolina	139.2	88.0
South Carolina	62.4	34.7
Georgia	139.4	97.2
Florida	448.4	266.9
East South Central Division:		
Kentucky	66.0	50.2
Tennessee	126.9	78.8
Alabama	85.9	51.5
Mississippi	45.6	20.6
West South Central Division:		
Arkansas	44.1	25.1
Louisiana	115.7	64.5
Oklahoma	99.6	58.8
Texas	521.1	304.1
Mountain Division:		
Montana	24.0	EE
Idaho	24.4	12.6
Wyoming	10.4	4.3
Colorado	122.7	77.7
New Mexico	36.6	17.2
Arizona	104.5	68.2
Utah	41.4	22.5
Pacific Division:		
Washington	156.9	86.0
Oregon	84.8	GG
California	985.5	604.0
27113 WEEKLY AND OTHER NEWSPAPERS (SUBSCRIPTIONS AND SALES)		
United States	240.6	106.9
New England Division:		
Massachusetts	7.9	6.6
Middle Atlantic Division:		
New York	42.7	9.5
New Jersey	7.6	5.3
Pennsylvania	22.0	14.2
East North Central Division:		
Ohio	4.5	2.7
Illinois	13.5	8.0
Michigan	5.9	5.6
Wisconsin	5.6	3.6
West North Central Division:		
Minnesota	4.0	2.5
Iowa	2.4	1.5
Missouri	11.0	6.1

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
27113, WEEKLY AND OTHER NEWSPAPERS (SUBSCRIPTIONS AND SALES)--Con.		
South Atlantic Division:		
Maryland	2.8	2.6
District of Columbia	10.3	(NA)
Virginia	3.0	1.2
North Carolina	3.9	1.0
East South Central Division:		
Tennessee	2.2	(NA)
West South Central Division:		
Texas	4.6	3.2
Pacific Division:		
California	13.3	10.3
27114, WEEKLY AND OTHER NEWSPAPERS (ADVERTISING)		
United States	734.5	386.5
New England Division:		
Maine	2.8	1.9
New Hampshire	2.3	1.4
Massachusetts	25.3	13.0
Connecticut	10.5	7.3
Middle Atlantic Division:		
New York	47.0	27.9
New Jersey	35.6	23.6
Pennsylvania	34.5	21.5
East North Central Division:		
Ohio	26.8	14.8
Indiana	10.3	4.5
Illinois	83.0	49.6
Michigan	37.0	18.8
Wisconsin	21.1	11.6
West North Central Division:		
Minnesota	15.1	8.3
Iowa	10.8	5.1
Missouri	25.3	8.1
Nebraska	8.6	3.6
Kansas	12.5	2.4
South Atlantic Division:		
Maryland	18.8	8.7
District of Columbia	10.8	(NA)
Virginia	11.6	5.5
West Virginia	3.3	(NA)
North Carolina	17.9	6.8
South Carolina	5.1	2.9
Georgia	11.4	3.4
Florida	27.7	9.2
East South Central Division:		
Kentucky	5.4	3.8
Tennessee	9.7	1.9
Alabama	9.8	1.8
Mississippi	3.6	2.6
West South Central Division:		
Arkansas	4.6	2.0
Louisiana	9.3	2.8
Oklahoma	2.7	2.2
Texas	25.5	7.7
Mountain Division:		
Colorado	7.7	4.6
New Mexico	2.5	1.6
Arizona	7.1	3.4
Utah	2.7	1.2
Pacific Division:		
Washington	12.3	10.9
Oregon	13.7	6.4
California	85.6	61.6
Hawaii	6.1	4.2

Product class and geographic area	Value of product shipments	
	1977	1972
27211, FARM PERIODICALS (SUBSCRIPTIONS, SALES, AND ADVERTISING)		
United States	107.5	75.9
Middle Atlantic Division:		
New York	2.9	(NA)
East North Central Division:		
Illinois	11.3	10.9
Wisconsin	5.7	(NA)
West North Central Division:		
Iowa	17.9	(NA)
Missouri	3.6	(NA)
27213, BUSINESS AND PROFESSIONAL PERIODICALS (SUBSCRIPTIONS AND SALES)		
United States	451.3	262.2
New England Division:		
Massachusetts	10.0	BB
Connecticut	8.4	6.2
Middle Atlantic Division:		
New York	257.9	140.8
New Jersey	10.0	9.0
Pennsylvania	24.3	9.1
East North Central Division:		
Ohio	9.9	6.9
Illinois	27.2	22.3
Michigan	9.9	1.5
West North Central Division:		
Missouri	9.0	4.6
South Atlantic Division:		
Maryland	6.4	BB
District of Columbia	11.1	16.8
Georgia	7.4	AA
West South Central Division:		
Texas	2.3	2.6
Pacific Division:		
California	26.8	7.0
27214, BUSINESS AND PROFESSIONAL PERIODICALS (ADVERTISING)		
United States	850.2	647.9
New England Division:		
Massachusetts	53.3	EE
Connecticut	31.7	18.3
Middle Atlantic Division:		
New York	296.6	303.1
New Jersey	20.9	31.0
Pennsylvania	58.1	34.6
East North Central Division:		
Ohio	76.2	47.7
Illinois	136.5	78.2
Michigan	10.0	8.4
Wisconsin	4.3	AA
West North Central Division:		
Missouri	11.2	10.3
South Atlantic Division:		
District of Columbia	18.6	12.8
Georgia	11.7	5.5
Florida	2.6	5.1
East South Central Division:		
Tennessee	4.7	AA
West South Central Division		
Texas	13.9	7.3

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** – Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
27214, BUSINESS AND PROFESSIONAL PERIODICALS (ADVERTISING)--Con.		
Mountain Division:		
Colorado	9.4	CC
Pacific Division:		
Washington	2.2	(NA)
California	30.0	21.4
27215, GENERAL AND CONSUMER PERIODICALS (SUBSCRIPTIONS AND SALES)		
United States	1,680.1	832.8
New England Division:		
New Hampshire	8.2	CC
Massachusetts	11.7	(NA)
Middle Atlantic Division:		
New York	968.8	GG
New Jersey	8.7	3.3
East North Central Division:		
Indiana	4.7	HH
Illinois	97.4	GG
Wisconsin	6.1	4.2
South Atlantic Division:		
Florida	4.8	BB
West South Central Division:		
Texas	14.9	AA
Mountain Division:		
Colorado	2.7	(NA)
Pacific Division:		
Washington	2.9	AA
California	94.0	38.0
27216, GENERAL AND CONSUMER PERIODICALS (ADVERTISING)		
United States	1,595.5	895.7
New England Division:		
New Hampshire	3.3	BB
Massachusetts	7.1	1.5
Middle Atlantic Division:		
New York	1,114.0	577.6
New Jersey	3.2	1.3
East North Central Division:		
Ohio	7.9	8.2
Illinois	66.3	57.7
Michigan	2.3	1.5
Wisconsin	2.9	1.5
West North Central Division:		
Minnesota	2.9	(NA)
Kansas	2.1	(NA)
South Atlantic Division:		
North Carolina	3.0	(NA)
Florida	3.4	1.9
West South Central Division:		
Texas	12.1	(NA)
Pacific Division:		
California	113.3	47.5
27217, OTHER PERIODICALS (SUBSCRIPTIONS, SALES, AND ADVERTISING)		
United States	269.2	282.1
Middle Atlantic Division:		
New York	62.7	79.7
Pennsylvania	8.1	16.5
27217, OTHER PERIODICALS (SUBSCRIPTIONS, SALES, AND ADVERTISING)--Con.		
East North Central Division:		
Ohio	32.5	36.3
Indiana	8.1	6.8
Illinois	37.4	31.8
Michigan	3.2	AA
West North Central Division:		
Minnesota	5.5	BB
Missouri	19.9	18.8
East South Central Division:		
Tennessee	37.5	25.8
West South Central Division:		
Texas	6.3	3.5
Pacific Division:		
California	7.0	24.2
27311, TEXTBOOKS (INCLUDING TEACHERS' EDITIONS)		
United States	1,408.7	809.6
New England Division:		
Massachusetts	224.9	137.1
Middle Atlantic Division:		
New York	644.5	353.1
New Jersey	41.5	22.9
Pennsylvania	36.5	20.4
East North Central Division:		
Ohio	85.1	48.7
Illinois	204.7	157.1
West North Central Division:		
Minnesota	34.9	9.4
Pacific Division:		
California	53.8	FF
27313, TECHNICAL, SCIENTIFIC, AND PROFESSIONAL BOOKS		
United States	684.1	403.0
New England Division:		
Massachusetts	16.2	CC
Connecticut	17.4	BB
Middle Atlantic Division:		
New York	247.9	157.9
New Jersey	13.4	17.2
Pennsylvania	81.0	42.2
East North Central Division:		
Ohio	11.5	6.6
Illinois	29.4	27.4
South Atlantic Division:		
Maryland	24.2	CC
District of Columbia	2.9	1.4
Florida	5.0	(NA)
West South Central Division:		
Texas	3.1	BB
Pacific Division:		
California	68.7	FF
27314, RELIGIOUS BOOKS		
United States	236.3	131.2
Middle Atlantic Division:		
New York	24.1	25.3
New Jersey	26.5	16.7
Pennsylvania	18.6	CC
East North Central Division:		
Indiana	14.0	BB
Illinois	21.2	FF

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
27314, RELIGIOUS BOOKS--Con.		
West North Central Division:		
Minnesota	2.5	(NA)
Missouri	6.5	BB
East South Central Division:		
Tennessee	42.4	EE
West South Central Division:		
Texas	14.2	1.1
Pacific Division:		
California	13.1	CC
27315, GENERAL BOOKS (TRADE, ETC.)		
United States	1,895.6	1,006.7
New England Division:		
Massachusetts	41.1	EE
Middle Atlantic Division:		
New York	1,231.0	751.8
New Jersey	16.6	19.6
Pennsylvania	81.3	11.3
East North Central Division:		
Illinois	104.9	73.5
West North Central Division:		
Minnesota	3.4	AA
Pacific Division:		
California	32.9	FF
27317, GENERAL REFERENCE BOOKS		
United States	305.4	235.3
Middle Atlantic Division:		
New York	68.9	63.3
New Jersey	7.8	CC
Pacific Division:		
California	4.8	BB
27318, OTHER BOOKS, EXCEPT PAMPHLETS		
United States	110.4	125.4
Middle Atlantic Division:		
New York	30.2	29.5
Pacific Division:		
California	7.9	(NA)
27319, PAMPHLETS (5 TO 48 PAGES)		
United States	49.1	48.7
Middle Atlantic Division:		
New York	11.9	6.9
East North Central Division:		
Illinois	2.3	FF
27321, BOOKS, PRINTING ONLY, LITHOGRAPHIC		
United States	173.0	108.9
New England Division:		
Massachusetts	6.9	10.0
Middle Atlantic Division:		
New York	18.3	19.9
New Jersey	22.9	5.5
Pennsylvania	19.0	6.4
East North Central Division:		
Ohio	3.9	(NA)
Illinois	12.3	8.2
Michigan	3.0	2.6
Wisconsin	4.7	CC

Product class and geographic area	Value of product shipments	
	1977	1972
27321, BOOKS, PRINTING ONLY, LITHOGRAPHIC--Con.		
West North Central Division:		
Minnesota	3.6	1.7
Missouri	9.5	3.5
South Atlantic Division:		
Maryland	13.6	11.1
Georgia	2.2	(NA)
West South Central Division:		
Texas	3.2	3.2
Pacific Division:		
California	16.7	4.9
27322, BOOKS, PRINTING AND BINDING, LITHOGRAPHIC		
United States	980.0	489.5
New England Division:		
Vermont	20.5	(NA)
Massachusetts	63.9	38.2
Connecticut	4.8	2.2
Middle Atlantic Division:		
New York	79.3	53.1
New Jersey	6.7	6.1
Pennsylvania	46.6	16.9
East North Central Division:		
Ohio	52.0	26.0
Illinois	35.5	17.9
Michigan	48.0	31.5
Wisconsin	57.9	33.0
West North Central Division:		
Minnesota	8.2	2.9
Missouri	55.5	9.2
Kansas	32.2	CC
South Atlantic Division:		
Maryland	40.8	23.3
District of Columbia	4.6	2.2
Virginia	11.4	(NA)
Georgia	4.6	(NA)
Florida	13.1	7.0
East South Central Division:		
Kentucky	36.4	EE
Alabama	5.2	BB
West South Central Division:		
Louisiana	3.0	AA
Texas	43.5	FF
Mountain Division:		
Colorado	3.9	1.0
Pacific Division:		
Washington	6.3	BB
California	47.2	11.1
27328, BOOKS, PRINTING AND BINDING, OTHER THAN LITHOGRAPHIC		
United States	158.5	135.8
New England Division:		
Massachusetts	18.3	(NA)
Middle Atlantic Division:		
New York	23.8	20.1
East North Central Division:		
Ohio	3.1	(NA)
Illinois	19.8	(NA)
West North Central Division:		
Missouri	3.1	(NA)
East South Central Division:		
Alabama	2.6	(NA)

See footnotes at end of table.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
27329, PAMPHLETS, WORKBOOKS, TESTS (PRINTING AND BINDING)		
United States	358.6	223.5
New England Division:		
Massachusetts	22.4	(NA)
Connecticut	6.8	(NA)
Middle Atlantic Division:		
New York	53.9	42.5
New Jersey	12.4	6.4
Pennsylvania	18.4	15.8
East North Central Division:		
Ohio	22.0	(NA)
Indiana	9.8	(NA)
Illinois	33.7	10.5
Michigan	12.1	(NA)
Wisconsin	24.0	(NA)
West North Central Division:		
Minnesota	4.6	(NA)
Missouri	10.5	(NA)
Nebraska	2.7	(NA)
South Atlantic Division:		
Maryland	23.8	(NA)
District of Columbia	7.8	(NA)
Virginia	7.1	(NA)
North Carolina	2.5	(NA)
South Carolina	2.3	(NA)
Georgia	2.0	(NA)
Florida	3.0	(NA)
East South Central Division:		
Kentucky	3.9	(NA)
Tennessee	2.9	(NA)
Alabama	2.7	(NA)
West South Central Division:		
Texas	10.1	(NA)
Mountain Division:		
Colorado	9.9	(NA)
Pacific Division:		
California	29.5	(NA)
27411, CATALOGS AND DIRECTORIES, PUBLISHING		
United States	456.9	244.1
New England Division:		
Massachusetts	5.6	2.0
Connecticut	3.9	(NA)
Middle Atlantic Division:		
New York	83.4	51.6
New Jersey	16.0	EE
Pennsylvania	2.2	CC
East North Central Division:		
Ohio	20.9	12.0
Illinois	149.4	GG
Michigan	10.4	CC
West North Central Division:		
Kansas	29.2	3.5
South Atlantic Division:		
Florida	2.2	(NA)
Pacific Division:		
California	16.1	CC
27412, BUSINESS SERVICE PUBLISHING		
United States	416.7	241.9
New England Division:		
Massachusetts	3.1	CC
Connecticut	18.0	EE
Middle Atlantic Division:		
New York	95.1	62.9
New Jersey	65.3	44.2
East North Central Division:		
Ohio	4.9	3.9
South Atlantic Division:		
Virginia	2.8	(NA)
West South Central Division:		
Texas	2.1	(NA)
Pacific Division:		
California	21.2	EE
27413, OTHER MISCELLANEOUS PUBLISHING		
United States	727.0	401.1
New England Division:		
Vermont	2.7	AA
Massachusetts	7.3	5.2
Connecticut	13.0	7.3
Middle Atlantic Division:		
New York	107.8	54.6
New Jersey	38.2	22.6
Pennsylvania	43.1	30.6
East North Central Division:		
Ohio	34.0	6.1
Indiana	11.3	6.8
Illinois	79.2	48.4
Michigan	110.8	90.8
Wisconsin	10.4	3.1
West North Central Division:		
Minnesota	11.5	7.2
Iowa	3.6	AA
Missouri	18.7	8.6
Kansas	39.1	EE
South Atlantic Division:		
Maryland	3.1	2.5
North Carolina	2.4	(NA)
Georgia	4.8	(NA)
Florida	16.8	10.2
East South Central Division:		
Kentucky	6.7	BB
Tennessee	8.4	7.1
West South Central Division:		
Texas	14.5	5.7
Mountain Division:		
Colorado	43.0	CC
Pacific Division:		
Washington	2.6	(NA)
Oregon	3.1	(NA)
California	68.7	45.6

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2711-	Newspapers	12,468.1	11,242.0	10,022.9	9,186.6	8,495.7	7,901.1	5,549.8	4,254.7
27111	Daily and Sunday newspapers (subscriptions and sales)	2,561.1	2,463.3	2,290.7	2,031.9	1,807.6	1,746.8	1,309.1	1,064.4
27112	Daily and Sunday newspapers (advertising)	8,140.5	7,393.2	6,542.9	6,086.8	5,680.8	5,213.8	3,652.5	2,727.5
27113	Weekly and other newspapers (subscriptions and sales)	240.6	195.5	175.3	172.5	132.4	106.9	78.2	82.9
27114	Weekly and other newspapers (advertising)	734.5	837.3	773.4	667.5	492.4	386.5	243.2	296.0
27110	Newspapers, n.s.k.	791.4	352.7	(240.7)	(227.9)	382.5	447.1	266.8	83.9
2721-	Periodicals	5,528.8	3,187.0	3,773.5	3,573.6	3,412.1	4,444.0	2,668.2	2,037.3
27211	Farm periodicals (subscriptions, sales, and (advertising)	107.5	(105.0)	(92.1)	(81.3)	82.5	75.9	57.0	54.1
27213	Business and professional periodicals (subscriptions and sales)	451.3	407.2	339.6	309.4	293.1	262.2	149.6	122.7
27214	Business and professional periodicals (advertising)	850.2	946.9	773.3	795.5	771.6	647.9	524.9	412.7
27215	General and consumer periodicals (subscriptions and sales)	1,680.1	1,363.5	1,165.7	987.6	929.9	832.8	593.5	458.6
27216	General and consumer periodicals (advertising)	1,595.5	1,121.4	953.7	941.1	978.3	895.7	879.5	710.6
27217	Other periodicals (subscription, sales, and advertising)	269.2	311.5	281.1	285.1	289.9	282.1	284.2	230.2
27210	Periodicals, n.s.k.	575.0	(188.5)	(168.0)	(173.6)	66.8	190.4	179.5	48.5
2731-	Book publishing	5,007.7	4,179.7	3,789.3	3,407.7	3,160.2	2,915.4	2,255.3	1,547.8
27311	Textbooks (including teachers' editions)	1,408.7	1,309.4	1,212.0	969.0	871.5	809.6	733.6	471.1
27313	Technical, scientific, and professional books	684.1	639.7	575.1	527.4	473.7	403.0	240.2	156.3
27314	Religious books	236.3	189.3	185.7	159.3	167.9	131.2	110.4	81.1
27315	General books (trade, etc.)	1,895.6	1,495.0	1,282.6	1,256.7	1,091.7	1,006.7	657.7	458.2
27317	General reference books	305.4	279.1	246.0	243.5	243.7	235.3	[2]216.3	[2]207.3
27318	Other books, excluding pamphlets	110.4	123.0	122.2	127.5	137.3	125.4	200.1	154.8
27319	Pamphlets (5 to 48 pages)	49.1	(35.5)	(36.5)	(38.4)	56.4	48.7		
27310	Book publishing, n.s.k.	318.1	(108.8)	(129.1)	(85.9)	118.0	155.5	97.0	18.9
2732-	Book printing	1,830.6	1,332.8	1,219.8	1,155.4	1,162.1	1,049.9	900.3	607.0
27321	Books, printing only, lithographic	173.0	182.9	174.0	184.0	224.1	108.9		
27322	Books, printing and binding, lithographic	980.0	756.6	677.7	604.9	506.5	489.5	855.3	585.9
27328	Books, printing and binding, other than lithographic	158.5	(148.0)	(128.6)	(131.3)	(138.8)	135.8		
27329	Pamphlets, workbooks, and tests, printing and binding	358.6	(S)	(S)	148.5	226.7	223.5		
27320	Book printing, n.s.k.	160.5	(44.9)	(59.4)	(86.7)	66.0	92.2	45.0	21.1
2741-	Miscellaneous publishing	1,935.1	1,384.1	1,259.0	1,163.2	1,164.7	1,058.3	608.6	413.4
27411	Catalogs and directories, publishing	456.9	420.1	341.3	338.3	269.6	244.1	184.6	133.0
27412	Business service publishing	416.7	374.9	331.4	277.7	254.6	241.9	123.0	101.6
27413	Other miscellaneous publishing	727.0	595.6	560.3	523.5	477.8	401.1	231.8	158.2
27410	Miscellaneous publishing, n.s.k.	334.5	([3])	(S)	(23.7)	162.7	171.2	69.2	20.6

n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Individual product codes included in product class for years prior to 1972 differ from product codes for 1972. Products shifting into or out of product class represent approximately 14 percent of total 1972 receipts.

[3]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see estimating procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 2711, NEWSPAPERS					
	Materials, parts, and supplies	.....	(X)	3,200.1	(X)	1,819.4
	Newsprint:					
262113	Basis wt. 30 lb	1,000 s. tons..	7,132.2	2,137.4		
262114	Basis wt. 32 lb		225.0	65.2	8,780.4	1,415.3
262115	Other basis wt		729.6	220.2		
262131	Coated papers, all types		**29.5	13.7	64.4	18.0
262101	All other paper	1,000 s. tons..	(S)	26.0	44.2	22.5
	Printing inks:					
	Purchased and consumed:					
289311	Letterpress, including news	Million lb.....	(S)	42.4		
289323	Lithographic, including offset		(S)	22.5	(S)	33.7
289305	Other, including gravure, flexographic, and screen process		(S)	2.0		
	Produced and consumed in same establishment:					
289311	Letterpress, including news					
289323	Lithographic, including offset		(S)	(X)	(S)	(X)
289305	Other, including gravure, flexographic, and screen process	Million lb.....				
386153	Unexposed lithographic plates, including presensitized	.....	(X)	22.6	(X)	[2]11.1
279512	Exposed lithographic plates prepared for printing	.....	(X)	7.0	(X)	([3])
386101	Light sensitive film and papers	.....	(X)	34.7	(X)	16.5
386181	Photographic developers and chemicals used in plate preparation	.....	(X)	16.0	(X)	8.9
970099	All other materials and components, parts, containers, and supplies	.....	(X)	224.9	(X)	[3]146.0
971000	Materials, parts, and supplies, n.s.k.[4]	.....	(X)	365.5	(X)	147.4
	INDUSTRY 2721, PERIODICALS					
2721--	Materials, parts, and supplies	.....	(X)	937.6	(X)	538.6
262111	Newsprint	1,000 s. tons..	**74.2	25.0	144.6	26.4
262131	Coated paper, all types		949.8	467.6	945.3	264.5
262102	Uncoated papers (groundwood, book, bond, writing, ledger, and manifold)		(S)	82.1	129.2	47.0
262150	Bristols, cover, text, and other specialty paper uncoated	1,000 s. tons..	*9.6	4.6	44.7	11.4
	Printing inks:					
	Purchased and consumed:					
289311	Letterpress, including news	Million lb.....	(S)	10.2		
289323	Lithographic, including offset		(S)	4.7	(S)	13.6
289305	Other, including gravure, flexographic, and screen process					
	Produced and consumed:					
289301	Printing inks (complete formulations) produced and consumed in the same establishment	Million lb.....	(S)	(X)	(S)	(X)
386153	Unexposed lithographic plates, including presensitized	.....	(X)	1.1		
386101	Light sensitive films and papers	.....	(X)	1.6	(X)	7.9
386181	Photographic developers and chemicals used in plate preparation	.....	(X)	1.1		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	76.3	(X)	88.5
971000	Materials, parts, and supplies, n.s.k.[4]	.....	(X)	263.3	(X)	79.3
	INDUSTRY 2731, BOOK PUBLISHING					
	Materials, parts, and supplies	.....	(X)	485.8	(X)	260.3
262111	Newsprint	1,000 s. tons..	32.2	11.5	70.1	13.1
262131	Coated paper, all types		(S)	125.6	190.2	63.9
262102	Uncoated papers (groundwood, book, bond, writing, ledger, and manifold)		154.5	90.2	187.7	61.2
262150	Bristol, cover, text, and other specialty papers uncoated	1,000 s. tons..	(S)	11.4	144.9	3.9
	Printing inks:					
	Purchased and consumed:					
289311	Letterpress, including news	Million lb.....				
289323	Lithographic, including offset		**7.6	3.6	10.3	6.8
289305	Other, including gravure, flexographic, and screen process					
289301	Printing inks (complete formulations), produced and consumed in the same establishment	Million lb.....	(S)	(X)	(S)	(X)
386153	Unexposed lithographic plates, including presensitized	.....	(X)	17.1	(X)	3.4
386101	Light sensitive films and papers	.....	(X)	1.9	(X)	1.7
386181	Photographic developers and chemicals used in plate preparation	.....	(X)	4.3	(X)	.3
970099	All other materials and components, parts, containers, and supplies	.....	(X)	92.5	(X)	54.9
971000	Materials, parts, and supplies, n.s.k.[4]	.....	(X)	127.7	(X)	51.1

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 2732, BOOK PRINTING					
	Materials, parts, and supplies	.....	(X)	573.0	(X)	277.7
262112	Newsprint	.....	(X)	5.8	(X)	3.7
	Coated paper:					
262136	Coated one side	.....	(X)	17.9	(X)	6.5
262138	Coated two sides	.....	(X)	75.5	(X)	37.3
	Uncoated paper:					
262102	Groundwood, book, bond, writing, ledger, and manifold	.....	(X)	101.2	(X)	74.8
262150	Bristol, cover, text, and other speciality paper	.....	(X)	35.7		
263105	Paperboard, excluding that used for shipping	.....	(X)	28.0	(X)	22.8
220011	Cloth and nonwoven fabrics for hardbound book covers	.....	(X)	19.2	(X)	(5)
289101	Glues and adhesives	.....	(X)	7.2	(X)	(5)
	Printing inks:					
	Purchased and consumed:					
289311	Letter press, including news	Million lb.....	(S)	1.5	5.0	2.1
289323	Lithographic, including offset		(S)	21.7	(S)	10.5
289305	Other, including gravure, flexographic, and screen process		(S)	.5	2.8	.6
	Produced and consumed:					
289301	Printing inks (complete formulations), produced and consumed in the same establishment	Million lb.....	(S)	(X)	(S)	(X)
386153	Unexposed lithographic plates, including presensitized	.....	(X)	10.7	(X)	8.5
330006	Metal for lithographic plates	.....	(X)	3.4		
279512	Exposed lithographic plates, prepared for printing	.....	(X)	2.8	(X)	(5)
386155	Light sensitive films	.....	(X)	12.7	(X)	7.9
386166	Light sensitive papers	.....	(X)	.8		
386181	Photographic developers and chemicals used in plate preparation	.....	(X)	3.2	(X)	(5)
264140	Pressure sensitive base stock (self adhesive); including paper, film, foil, etc	.....	(X)	.7	(X)	.8
349704	Foil and foil laminates	.....	(X)	2.0	(X)	(5)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	109.3	(X)	[5]78.0
971000	Materials, parts, and supplies, n.s.k.[4]	.....	(X)	113.2	(X)	24.2
	INDUSTRY 2741, MISCELLANEOUS PUBLISHING					
	Materials, parts, and supplies	.....	(X)	200.1	(X)	135.3
262111	Newsprint	1,000 s. tons..	(S)	16.0	[6]62.7	11.4
262131	Coated paper, all types		**26.7	15.3	31.7	13.8
262102	Uncoated papers (groundwood, book, bond, writing, ledger, and manifold)		*56.5	33.5	[6]52.5	17.1
262150	Bristol, cover, text, and other specialty papers, uncoated	1,000 s. tons..	(S)	2.6	[6]6.0	2.7
	Printing inks:					
	Purchased and consumed:					
289311	Letterpress, including news	Million lb.....	(S)	([7])		
289323	Lithographic, including offset		5.2	2.7		
289305	Other, including gravure, flexographic, and screen process		(S)	[7]8		
	Produced and consumed:					
289301	Printing inks (complete formulations), produced and consumed in the same establishment	Million lb.....	(S)	(X)	(X)	47.6
386153	Unexposed lithographic plates, including presensitized	.....	(X)	1.9		
386101	Light sensitive films and papers	.....	(X)	5.6		
386181	Photographic developers and chemicals used in plate preparation	.....	(X)	.7		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	42.0		
971000	Materials, parts, and supplies, n.s.k.[4]	.....	(X)	79.0	(X)	42.7

n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]1972 data may not be directly comparable to 1977 data because of revision in description. For 1972, material code 386151 read "unexposed lithographic plates and metal for lithographic plates."

[3]For 1972, material code 279512 was included with material code 970099.

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1972, material codes 220011, 289101, 279512, 386181, and 349704 were included with material code 970099.

[6]10 to 30 percent of quantity was estimated.

[7]For 1977, material code 289311 was included with material code 289305.

Commercial Printing and Manifold Business Forms

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DESCRIPTION OF INDUSTRIES

COMMERCIAL PRINTING AND MANIFOLD BUSINESS FORMS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
2751	Commercial Printing, Letterpress
2752	Commercial Printing, Lithographic
2753	Engraving and Plate Printing
2754	Commercial Printing, Gravure
2761	Manifold Business Forms

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2751, COMMERCIAL PRINTING, LETTERPRESS

This industry comprises establishments primarily engaged in letterpress, and screen commerical or job printing, including flexographic. This industry includes general printing shops, as well as shops specializing in printing newspapers and periodicals for others, and those which specialize in screen printing. Establishments primarily engaged in printing books, without publishing, are classified in industry 2732, and greeting cards in industry 2771. Establishments primarily engaged in printing from lithographic plates are classified in industry 2752, and gravure and rotogravure printing in industry 2754.

The total value of receipts for establishments classified in the Commerical Printing, Letterpress industry amounted to $4,284 million in 1977, an increase of 30 percent from 1972. The value of receipts for products classified as primary to the industry was $4,621 million, an increase of 37 percent from 1972. (See the Introduction for a discussion of the difference between value of receipts for the industry and value of product receipts.) The products accounting for a significant portion of this change were other general job printing, for which receipts increased 58 percent, and labels and printed rolls and sheets for packaging purposes, for which receipts increased 49 percent. Value added by manufacture, at $2,440 million in 1977, was 21 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 110.9 thousand employees, a decrease of 15 percent from 1972. The leading States in employment were Illinois, New York, California, and Ohio, accounting for 44 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for 44 percent of the industry's employment, although there has been some shift in the relative importance of individual States. This represents a shift from 1972 when New York was first and Illinois second.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 25 percent of total value of receipts.

INDUSTRY 2752, COMMERCIAL PRINTING, LITHOGRAPHIC

This industry comprises establishments primarily engaged in printing by the lithographic process. The greater part of the work in this industry is performed on a job or custom basis, but in some cases lithographed calendars, maps, posters, decalcomanias, etc., are made for sale. Offset printing, photo-offset printing, and photo lithographing are also included in this industry. Establishments primarily engaged in lithographing books and pamphlets, without publishing, are classified in industry 2732; and greeting cards in industry 2771. Establishments primarily engaged in preparing lithographic plates and in related services are classified in industry 2795.

The total value of receipts for establishments classified in the Commercial Printing, Lithographic industry amounted to $9,360 million in 1977, an increase of 83 percent from 1972.

The value of receipts for products classified as primary to the industry was $8,980 million, an increase of 83 percent from 1972. (See the Introduction for a discussion of the difference between value of receipts for the industry and value of product receipts.) The products accounting for a significant portion of this change were advertising printing, for which receipts increased 55 percent, and general job printing, for which receipts increased 125 percent. Value added by manufacture, at $5,338 million in 1977, was 69 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 216.3 thousand employees, an increase of 18 percent from 1972. The leading States in employment were New York, Illinois, California, and Pennsylvania, accounting for 37 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for 40 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of receipts.

INDUSTRY 2753, ENGRAVING AND PLATE PRINTING

This industry comprises establishments primarily engaged in engraving and etching steel, copper, wood, or rubber plates; in using plates to print stationery, visiting and other cards, invitations, maps, etc.; and in making woodcuts for use in printing illustrations, posters, etc. Establishments primarily engaged in engraving for purposes other than printing are classified in industry 3479.

The total value of receipts for establishments classified in the Engraving and Plate Printing industry amounted to $315 million in 1977, an increase of 56 percent from 1972. The value of receipts for products classified as primary to the industry was $289 million, an increase of 40 percent from 1972. (See the Introduction for a discussion of the difference between value of receipts for the industry and value of product receipts.) The change reflected a general trend in the receipts for most of the products of the industry. Value added by manufacture, at $231 million in 1977, was 51 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 9.8 thousand employees, an increase of 2 percent from 1972. The leading States in employment were New York, Pennsylvania, California, and Illinois, accounting for 54 percent of the industry's 1977 employment. This represents a shift from 1972 when New York, Illinois, Massachusetts, and New Jersey accounted for 40 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 11 percent of total value of receipts.

INDUSTRY 2754, COMMERCIAL PRINTING, GRAVURE

This industry comprises establishments primarily engaged in gravure printing. This industry also includes establishments primarily engaged in preparing gravure plates and cylinders.

The total value of receipts for establishments classified in the Commercial Printing, Gravure industry amounted to $1,057 million in 1977, an increase of 51 percent from 1972. The value of receipts for products classified as primary to the industry was $1,147 million, an increase of 51 percent from 1972. (See the Introduction for a discussion of the difference between value of receipts for the industry and value of product receipts.) The products accounting for a significant portion of this change were catalogs, for which receipts increased 57 percent, and magazines and periodicals, for which receipts increased 33 percent. Value added by manufacture, at $541 million in 1977, was 45 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 19.0 thousand employees, a decrease of 5 percent from 1972. The leading States in employment were Illinois, Pennsylvania, California, and Indiana accounting for approximately 45 percent of the industry's 1977 employment. Data for Indiana have been withheld to avoid disclosing operatios of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time of the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of receipts.

INDUSTRY 2761, MANIFOLD BUSINESS FORMS

This industry comprises establishments primarily engaged in designing and printing, by any process, special forms for use in the operation of a business, in single and multiple sets, including carbonized or interleaved with carbon or otherwise processed for multiple reproduction.

The total value of shipments for establishments classified in the Manifold Business Forms industry amounted to $2,894 million in 1977, an increase of 102 percent from 1972. The value of shipments of products classified as primary to the industry was $2,703 million, an increase of 96 percent from

1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were custom continuous forms, for which shipments increased 62 percent, and unit set forms, for which shipments increased 72 percent. Value added by manufacture, at $1,492 million in 1977, was 81 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 45.3 thousand employees, an increase of 17 percent from 1972. The leading States in employment were California, Texas, Ohio, and Illinois, accounting for 36 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for 36 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2751, COMMERCIAL PRINTING, LETTERPRESS[3]																
1977 Census--	14 380	14 521	1 059	110.9	1 307.3	88.0	159.6	913.6	2 440.4	1 852.6	4 284.3	163.0	(NA)	372.7	89	81
1976 ASM----	(NA)	(NA)	(NA)	145.3	1 456.5	111.4	206.7	1 029.5	2 749.2	1 939.1	4 670.1	191.7	1 488.8	364.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	137.9	1 299.1	108.4	196.4	920.5	2 417.4	1 642.9	4 064.3	143.8	1 481.9	350.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	133.9	1 257.9	108.0	201.7	910.2	2 293.0	1 474.8	3 686.0	157.1	1 481.6	343.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	132.8	1 175.1	105.3	194.3	847.6	2 107.3	1 409.6	3 507.6	115.4	1 547.9	296.1	(NA)	(NA)
1972 Census--	13 043	13 199	1 172	130.5	1 136.0	104.2	191.6	817.0	2 015.4	1 303.1	3 305.8	129.7	1 470.4	262.7	87	r83
INDUSTRY 2752, COMMERCIAL PRINTING, LITHOGRAPHIC																
1977 Census--	10 959	11 320	2 362	216.3	2 984.1	163.7	307.4	2 045.7	5 338.4	4 061.6	9 359.7	360.2	(NA)	861.9	87	88
1976 ASM----	(NA)	(NA)	(NA)	193.7	2 490.5	145.6	286.5	1 704.7	4 408.5	3 312.9	7 705.0	238.0	2 685.9	659.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	189.0	2 256.9	142.0	267.3	1 537.1	3 853.0	2 902.3	6 751.3	226.6	2 540.4	599.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	188.1	2 121.3	142.0	271.0	1 466.9	3 705.7	2 615.1	6 297.9	204.3	2 284.5	634.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	192.3	2 010.1	147.8	279.9	1 405.4	3 511.1	2 229.1	5 721.5	238.0	2 240.6	490.7	(NA)	(NA)
1972 Census--	8 161	8 388	2 135	184.0	1 835.3	139.6	264.2	1 266.2	3 155.1	1 992.7	5 124.8	220.6	2 101.6	373.5	87	88
1971 ASM----	(NA)	(NA)	(NA)	165.1	1 543.5	124.8	240.0	1 055.1	2 605.1	1 656.8	4 248.7	160.2	1 729.8	334.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	171.2	1 501.2	131.1	255.0	1 026.7	2 519.3	1 629.5	4 135.7	165.2	1 649.2	306.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	160.2	1 361.6	123.6	245.7	945.6	2 391.4	1 496.4	3 869.3	142.3	1 423.2	275.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	151.9	1 217.6	116.7	230.2	839.0	2 112.6	1 358.1	3 454.3	131.4	1 301.6	241.7	(NA)	(NA)
1967 Census--	6 718	6 822	1 648	146.5	1 113.2	112.2	233.3	766.5	1 897.7	1 242.4	3 139.4	125.6	1 178.7	209.9	82	80
1966 ASM----	(NA)	(NA)	(NA)	141.1	1 011.2	107.1	214.0	698.3	1 631.9	1 168.0	2 791.4	112.2	(NA)	208.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	132.4	920.9	100.3	202.2	635.5	1 479.0	1 063.7	2 536.6	98.6	(NA)	189.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	121.1	816.5	91.4	190.2	568.2	1 335.3	915.7	2 243.3	99.3	884.2	163.4	(NA)	(NA)
1963 Census--	6 738	6 822	1 339	121.1	794.4	91.4	187.3	554.9	1 302.0	852.3	2 149.7	76.9	799.5	160.6	80	82
INDUSTRY 2753, ENGRAVING AND PLATE PRINTING																
1977 Census--	403	550	118	9.8	118.9	7.6	13.5	84.5	230.8	85.1	314.9	17.8	(NA)	23.5	88	92
1976 ASM[6]---	(NA)	(NA)	(NA)	9.5	108.5	7.1	12.7	74.3	215.9	72.0	291.1	5.1	83.2	22.4	(NA)	(NA)
1975 ASM[6]---	(NA)	(NA)	(NA)	9.2	95.5	6.9	12.8	70.1	193.2	59.3	252.9	10.2	77.9	21.3	(NA)	(NA)
1974 ASM[6]---	(NA)	(NA)	(NA)	10.1	91.4	7.8	15.2	68.5	186.2	62.5	246.5	7.5	77.2	19.7	(NA)	(NA)
1973 ASM[6]---	(NA)	(NA)	(NA)	11.0	88.6	9.0	16.5	62.6	173.5	60.4	233.6	5.4	76.8	14.0	(NA)	(NA)
1972 Census--	542	560	132	9.6	80.7	7.5	14.4	58.1	152.4	49.6	201.6	5.1	71.2	12.3	92	87
1971 ASM----	(NA)	(NA)	(NA)	8.6	68.7	6.7	13.1	46.1	124.1	39.7	165.5	3.6	68.3	10.7	(NA)	(NA)
1970 ASM[5]---	(NA)	(NA)	(NA)	8.5	67.5	6.7	13.2	47.6	130.8	39.2	171.0	4.7	68.1	12.6	(NA)	(NA)
1969 ASM[5]---	(NA)	(NA)	(NA)	10.1	81.3	8.9	18.3	58.9	153.8	64.1	216.6	4.8	61.8	13.2	(NA)	(NA)
1968 ASM[5]---	(NA)	(NA)	(NA)	9.3	64.6	8.0	15.8	45.7	133.3	47.5	179.8	3.4	54.6	11.8	(NA)	(NA)
1967 Census[5]-	569	577	129	9.0	58.7	7.3	14.6	42.7	98.8	39.7	137.9	3.8	51.5	10.0	91	81
1966 ASM[6]---	(NA)	(NA)	(NA)	11.1	73.3	9.3	19.2	58.0	129.2	50.4	175.9	4.6	(NA)	12.7	(NA)	(NA)
1965 ASM[6]---	(NA)	(NA)	(NA)	12.0	75.7	10.0	20.6	59.0	134.2	40.5	170.8	5.6	(NA)	13.1	(NA)	(NA)
1964 ASM[5]---	(NA)	(NA)	(NA)	9.5	54.6	7.5	14.9	40.5	88.5	35.0	122.9	1.0	36.9	10.3	(NA)	(NA)
1963 Census[5]-	574	580	105	9.0	50.7	7.1	13.8	38.2	80.7	31.1	111.1	3.8	35.7	10.2	89	84
INDUSTRY 2754, COMMERCIAL PRINTING, GRAVURE[3]																
1977 Census--	403	424	98	19.0	291.6	15.8	30.8	231.5	541.4	521.1	1 056.8	98.5	(NA)	101.7	91	83
1976 ASM----	(NA)	(NA)	(NA)	18.2	270.4	15.0	29.5	216.6	496.2	491.2	980.1	35.4	512.0	101.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	18.6	248.9	15.5	29.6	200.2	426.5	446.0	875.0	32.4	509.9	91.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	20.4	257.2	17.2	32.6	208.1	442.7	448.6	879.6	32.4	468.6	103.6	(NA)	(NA)
1973 ASM[6]---	(NA)	(NA)	(NA)	20.4	249.9	17.1	32.6	202.7	390.9	351.4	732.2	41.5	472.7	63.9	(NA)	(NA)
1972 Census--	117	135	88	20.0	225.4	17.0	32.8	182.3	372.2	326.2	697.6	22.5	441.0	51.7	87	79

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
	INDUSTRY 2761, MANIFOLD BUSINESS FORMS															
1977 Census--	604	795	477	45.3	575.0	33.3	67.3	390.9	1 491.6	1 418.0	2 893.8	82.1	(NA)	336.7	93	95
1976 ASM----	(NA)	(NA)	(NA)	38.8	468.0	29.2	58.4	317.1	1 201.7	1 132.9	2 327.9	58.6	759.1	289.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	40.2	440.1	29.8	58.4	292.0	1 155.5	1 024.7	2 184.9	74.6	728.0	283.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	44.5	445.8	33.8	67.9	309.4	1 325.1	1 013.8	2 304.6	67.4	654.6	348.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	40.9	385.6	30.6	62.5	264.8	978.6	739.9	1 708.4	52.2	587.0	196.6	(NA)	(NA)
1972 Census--	533	667	376	38.6	343.6	28.8	58.6	235.2	823.6	612.3	1 429.7	45.8	547.8	143.8	93	92
1971 ASM----	(NA)	(NA)	(NA)	37.4	320.6	27.6	58.2	215.6	727.7	550.3	1 277.7	50.6	534.6	133.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	39.7	317.1	29.7	60.7	215.4	721.9	543.3	1 264.8	54.7	499.0	131.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	37.1	287.7	28.1	57.7	190.5	667.1	487.9	1 152.2	48.6	423.1	120.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	35.4	263.2	26.1	54.6	173.1	607.6	431.2	1 031.4	45.2	383.2	112.1	(NA)	(NA)
1967 Census--	454	542	295	34.4	240.2	25.3	51.4	158.9	550.5	384.6	932.3	39.8	340.4	98.4	91	90
1966 ASM----	(NA)	(NA)	(NA)	31.6	208.3	23.1	48.5	140.3	486.3	345.6	823.9	44.4	(NA)	90.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	30.3	192.3	22.3	46.6	128.6	436.5	309.5	739.7	29.5	(NA)	80.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	28.8	177.8	21.5	44.8	120.7	401.3	281.3	679.6	22.2	233.8	69.2	(NA)	(NA)
1963 Census--	439	502	250	28.8	173.2	21.3	43.3	116.7	377.7	259.3	637.7	23.1	209.4	64.4	90	91

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2751, COMMERCIAL PRINTING, LETTERPRESS											
1977 Census--	11 789	(NA)	79	1 812	5.72	43	73	(NA)	22 008	53	15.29
1976 ASM----	10 024	10 246	76	1 855	4.98	41	72	31	18 920	52	13.30
1975 ASM----	9 420	10 746	78	1 811	4.68	40	72	36	17 530	53	12.30
1974 ASM----	9 394	11 064	80	1 867	4.51	40	74	40	17 124	54	11.36
1973 ASM----	8 848	11 655	79	1 845	4.36	40	73	44	15 868	55	10.84
1972 Census--	8 704	11 267	79	1 838	4.26	39	73	44	15 443	56	10.51
INDUSTRY 2752, COMMERCIAL PRINTING, LITHOGRAPHIC											
1977 Census--	13 796	(NA)	75	1 877	6.65	43	75	(NA)	24 681	55	17.36
1976 ASM----	12 857	13 866	75	1 967	5.95	42	75	34	22 759	56	15.38
1975 ASM----	11 941	13 441	75	1 882	5.75	42	76	37	20 386	58	14.41
1974 ASM----	11 277	12 145	75	1 908	5.41	41	75	36	19 700	57	13.67
1973 ASM----	10 452	11 651	76	1 893	5.02	38	74	39	18 258	57	12.54
1972 Census--	9 974	11 421	75	1 892	4.79	38	74	41	17 147	58	11.94
1971 ASM----	9 348	10 477	75	1 923	4.39	38	75	40	15 778	59	10.85
1970 ASM----	8 768	9 633	76	1 945	4.02	39	75	39	14 715	59	9.87
1969 ASM----	8 499	8 883	77	1 987	3.84	38	73	36	14 927	56	9.73
1968 ASM----	8 015	8 568	76	1 972	3.64	39	74	37	13 907	57	9.17
1967 Census--	7 598	8 045	76	2 079	3.28	39	75	37	12 953	58	8.13
1966 ASM----	7 166	(NA)	75	1 998	3.26	41	78	(NA)	11 565	61	7.62
1965 ASM----	6 955	(NA)	75	2 015	3.14	41	78	(NA)	11 170	62	7.31
1964 ASM----	6 742	7 301	75	2 080	2.98	40	77	39	11 026	61	7.02
1963 Census--	6 559	6 601	75	2 049	2.96	39	76	37	10 751	61	6.95
INDUSTRY 2753, ENGRAVING AND PLATE PRINTING											
1977 Census--	12 124	(NA)	77	1 790	6.24	27	64	(NA)	23 535	51	17.06
1976 ASM----	11 421	8 757	74	1 788	5.85	24	62	28	22 726	50	17.00
1975 ASM----	10 380	8 467	75	1 855	5.47	23	61	30	21 000	49	15.09
1974 ASM----	9 049	7 643	77	1 948	4.50	25	62	31	18 435	49	12.25
1973 ASM----	8 054	6 981	81	1 833	3.79	25	63	32	15 772	51	10.51
1972 Census--	8 406	7 416	78	1 920	4.03	24	64	35	15 875	52	10.58
1971 ASM----	7 988	7 941	77	1 955	3.51	23	65	41	14 430	55	9.47
1970 ASM----	7 941	8 011	78	1 970	3.60	22	62	39	15 388	51	9.90
1969 ASM----	8 049	6 118	88	2 056	3.21	29	67	28	15 227	52	8.40
1968 ASM----	6 946	5 870	86	1 975	2.89	26	62	30	14 333	48	8.43
1967 Census--	6 522	5 722	81	2 000	2.92	28	71	37	10 977	59	6.76
1966 ASM----	6 603	(NA)	83	2 064	3.02	28	70	(NA)	11 639	56	6.72
1965 ASM----	6 308	(NA)	83	2 060	2.86	23	68	(NA)	11 183	56	6.51
1964 ASM----	5 747	3 884	78	1 986	2.71	28	72	30	9 315	61	5.93
1963 Census--	5 633	3 966	78	1 943	2.76	27	73	32	8 966	62	5.84
INDUSTRY 2754, COMMERCIAL PRINTING, GRAVURE											
1977 Census--	15 339	(NA)	83	1 945	7.51	49	76	(NA)	28 480	53	17.57
1976 ASM----	14 857	28 131	82	1 966	7.34	50	77	52	27 263	54	16.82
1975 ASM----	13 381	27 413	83	1 909	6.76	50	79	58	22 930	58	14.40
1974 ASM----	12 607	22 970	84	1 895	6.38	51	80	53	21 700	58	13.57
1973 ASM----	12 250	23 171	83	1 906	6.21	47	82	64	19 161	63	11.99
1972 Census--	11 270	22 050	85	1 929	5.55	46	79	63	18 610	60	11.34

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2761, MANIFOLD BUSINESS FORMS										
1977 Census--	12 685	(NA)	73	2 020	5.81	49	68	(NA)	32 909	38	22.17
1976 ASM----	12 061	19 564	75	2 000	5.42	48	68	32	30 971	38	20.57
1975 ASM----	10 947	18 109	74	1 959	5.00	46	67	33	28 743	38	19.78
1974 ASM----	10 017	14 710	75	2 008	4.55	43	63	28	29 777	33	19.51
1973 ASM----	9 427	14 352	74	2 042	4.23	43	65	34	23 926	39	15.65
1972 Census--	8 901	14 191	74	2 034	4.01	42	66	38	21 336	41	14.05
1971 ASM----	8 572	14 294	73	2 108	3.70	43	68	41	19 457	44	12.50
1970 ASM----	7 987	12 569	74	2 043	3.54	42	68	39	18 183	43	11.89
1969 ASM----	7 754	11 404	75	2 053	3.30	42	67	36	17 981	43	11.56
1968 ASM----	7 435	10 824	73	2 091	3.17	41	67	37	17 163	43	11.12
1967 Census--	6 982	9 895	73	2 031	3.09	41	67	36	16 002	43	10.71
1966 ASM----	6 591	(NA)	73	2 099	2.89	41	67	(NA)	15 389	42	10.02
1965 ASM----	6 346	(NA)	73	2 089	2.75	41	67	(NA)	14 405	44	9.36
1964 ASM----	6 173	8 118	74	2 083	2.69	41	67	34	13 934	44	8.95
1963 Census--	6 013	7 270	73	2 032	2.69	40	67	32	13 114	45	8.72

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2751, COMMERCIAL PRINTING, LETTERPRESS													
United States	**E2**	**14 521**	**1 059**	**110.9**	**1 307.3**	**88.0**	**159.6**	**913.6**	**2 440.4**	**1 852.6**	**4 284.3**	**163.0**	**130.5**	**2 015.4**
New England Division:														
Maine	E3	49	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	7.4
New Hampshire	E3	69	5	0.3	3.5	0.2	0.3	1.8	7.1	4.2	11.2	(D)	BB	(D)
Massachusetts	E2	412	40	3.8	39.5	3.0	5.4	27.7	70.0	50.6	120.3	4.3	FF	(D)
Rhode Island	E3	73	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Connecticut	E2	234	18	1.6	19.1	1.3	2.4	13.8	39.7	32.8	72.3	2.2	EE	(D)
Middle Atlantic Division:														
New York	E2	1 688	164	13.3	161.9	10.3	18.6	108.1	297.6	226.2	522.9	20.4	17.9	295.8
New Jersey	E2	645	69	6.4	70.9	5.2	9.5	49.5	140.3	91.6	231.0	8.5	5.9	92.7
Pennsylvania	E1	687	51	6.0	63.2	4.6	8.2	43.2	125.0	104.9	229.6	5.7	8.1	114.7
East North Central Division:														
Ohio	E1	669	72	9.1	119.0	7.3	13.9	91.1	194.0	180.7	375.3	20.5	9.7	149.2
Indiana	E2	294	25	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.8	34.0
Illinois	E1	882	97	15.5	220.8	11.9	23.7	155.4	401.2	256.0	655.6	20.0	17.7	318.6
Michigan	E3	508	32	2.9	34.0	2.4	4.2	23.0	64.6	50.3	114.5	4.3	3.8	64.5
Wisconsin	E1	316	31	3.0	31.6	2.4	4.3	21.2	55.7	66.0	121.7	5.4	3.5	46.3
West North Central Division:														
Minnesota	E1	281	26	3.1	30.7	2.6	4.0	20.8	59.5	37.4	96.9	5.5	2.2	33.6
Iowa	E2	181	13	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	17.7
Missouri	E3	334	24	2.0	22.5	1.6	2.8	15.1	39.0	23.6	62.4	1.6	2.5	32.9
South Dakota	–	32	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	3.0
Nebraska	E1	102	6	0.8	9.2	0.6	1.1	5.8	17.5	13.9	31.3	(D)	0.7	9.8
Kansas	E2	132	6	0.7	8.2	0.6	1.0	5.1	16.9	8.2	24.7	0.9	1.2	15.4
South Atlantic Division:														
Maryland	E4	224	11	1.2	13.8	1.0	1.7	9.7	25.3	17.8	43.1	1.4	2.7	35.6
District of Columbia	E3	61	8	0.4	4.3	0.3	0.5	3.1	7.7	5.1	12.8	0.4	0.8	12.3
Virginia	E5	238	10	1.1	11.4	0.9	1.7	7.9	22.2	14.7	36.8	1.1	2.0	23.9
West Virginia	E5	60	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	E3	313	20	1.6	16.7	1.3	2.2	11.1	35.4	30.7	65.6	1.9	2.0	28.4
South Carolina	E2	139	10	0.7	7.0	0.5	1.0	4.7	14.1	8.6	22.5	1.1	CC	(D)
Georgia	E2	289	18	2.0	21.3	1.6	2.8	15.0	39.9	37.4	77.1	1.7	2.6	40.3
Florida	E4	669	26	2.7	27.4	2.2	3.7	18.8	52.3	35.0	87.1	3.3	3.6	48.2
East South Central Division:														
Kentucky	E3	145	10	0.9	9.6	0.7	1.3	6.8	13.9	12.6	26.5	1.0	1.0	11.3
Tennessee	E3	258	15	1.4	15.0	1.1	2.0	10.5	29.3	19.7	49.2	(D)	EE	(D)
Alabama	E4	154	7	0.7	7.9	0.6	1.1	5.9	16.7	15.1	31.7	2.3	CC	(D)
Mississippi	E5	104	5	0.4	3.7	0.3	0.5	2.6	7.5	4.6	12.0	0.5	0.4	5.4
West South Central Division:														
Arkansas	E2	98	7	0.7	8.2	0.5	1.0	5.4	13.7	8.0	21.6	1.1	0.7	9.9
Louisiana	E3	174	9	0.9	9.5	0.8	1.3	6.4	17.3	14.4	31.6	1.7	1.3	17.5
Oklahoma	E3	171	5	0.9	10.4	0.8	1.3	7.5	18.0	10.9	29.6	(D)	0.8	10.8
Texas	E4	845	37	4.2	46.2	3.4	6.1	32.6	92.7	70.4	162.8	(D)	4.0	61.6
Mountain Division:														
Colorado	E2	206	12	1.0	10.1	0.8	1.3	6.9	20.1	14.1	34.1	1.7	1.2	17.1
New Mexico	E3	61	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.9
Arizona	E4	171	12	0.8	7.7	0.6	1.1	5.4	14.6	9.6	24.0	0.9	0.6	8.4
Utah	E7	65	1	0.2	1.9	0.2	0.2	1.3	3.8	2.5	6.3	0.2	EE	(D)
Nevada	E2	50	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
Washington	E4	219	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	13.0
Oregon	E5	169	8	0.7	7.4	0.6	1.0	5.1	12.9	8.9	21.8	(D)	BB	(D)
California	E2	1 796	116	11.3	135.6	9.0	16.2	95.0	265.1	213.1	476.6	15.9	12.9	219.6
Hawaii	E4	50	1	0.2	1.6	0.1	0.2	1.1	3.1	2.1	5.2	0.2	AA	(D)
INDUSTRY 2752, COMMERCIAL PRINTING, LITHOGRAPHIC														
United States	**E1**	**11 320**	**2 362**	**216.3**	**2 984.1**	**163.7**	**307.4**	**2 045.7**	**5 338.4**	**4 061.6**	**9 359.7**	**360.2**	**184.0**	**3 155.1**
New England Division:														
Maine	E1	43	10	0.5	4.3	0.3	0.6	3.0	7.2	4.8	12.0	0.8	0.3	3.7
New Hampshire	–	45	9	1.6	17.0	1.2	2.3	10.9	28.6	18.3	46.8	(D)	1.3	15.2
Vermont	–	32	10	0.6	6.3	0.4	0.8	4.1	9.0	7.4	16.5	1.2	0.6	9.0
Massachusetts	–	372	88	8.0	102.7	6.3	11.7	70.4	185.0	118.9	303.0	11.1	7.0	101.6
Rhode Island	E1	55	14	1.0	12.6	0.8	1.5	8.2	26.2	17.2	43.3	1.0	0.6	12.4
Connecticut	–	215	65	5.7	76.6	4.5	8.3	51.8	139.5	92.0	231.2	7.5	4.2	71.0
Middle Atlantic Division:														
New York	E1	1 317	245	24.0	369.7	17.5	33.3	247.4	656.3	495.9	1 149.0	41.9	23.9	476.8
New Jersey	E1	433	85	6.6	99.1	4.9	9.2	65.8	184.0	148.6	331.4	11.4	5.7	105.3
Pennsylvania	–	550	152	13.6	192.0	10.6	19.7	136.1	318.4	232.4	554.1	13.5	14.0	207.6
East North Central Division:														
Ohio	–	563	136	13.1	173.7	9.8	18.1	117.6	303.8	222.6	523.8	19.9	13.5	226.3
Indiana	E1	229	47	3.5	47.6	2.5	4.8	31.5	85.7	53.2	138.2	5.0	FF	(D)
Illinois	–	785	212	23.3	358.4	18.0	34.8	250.7	628.6	521.8	1 144.9	38.6	21.2	410.8
Michigan	–	412	75	7.2	106.9	5.2	9.9	70.6	196.8	153.4	346.4	12.2	6.8	123.9
Wisconsin	–	259	70	7.0	102.6	5.3	10.3	73.7	190.6	143.4	330.3	16.5	FF	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2752, COMMERCIAL PRINTING, LITHOGRAPHIC—Con.														
West North Central Division:														
Minnesota	E1	253	73	10.3	141.6	7.4	13.9	95.1	260.4	192.9	450.6	28.6	6.2	117.0
Iowa	–	135	32	2.3	27.7	1.7	2.9	17.2	50.5	33.2	83.3	3.3	EE	(D)
Missouri	E1	256	60	5.8	82.7	4.3	8.4	56.7	141.5	114.3	253.8	9.6	5.1	92.1
North Dakota	E1	20	9	0.3	3.6	0.2	0.4	2.2	5.8	3.6	9.4	0.4	0.4	2.7
South Dakota	–	21	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Nebraska	E1	74	18	1.6	19.2	1.3	2.2	13.0	38.1	34.5	72.3	2.3	EE	(D)
Kansas	–	109	29	2.3	27.4	1.8	3.3	21.4	47.1	30.7	77.8	2.8	EE	(D)
South Atlantic Division:														
Delaware	E1	25	7	0.6	7.2	0.4	0.7	4.7	11.0	6.7	17.7	1.4	BB	(D)
Maryland	E1	180	58	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
District of Columbia	–	68	26	1.6	26.2	1.2	2.4	17.2	43.2	35.4	79.1	2.4	1.4	24.9
Virginia	–	191	43	3.5	41.9	2.7	4.8	27.6	73.7	55.0	128.6	7.7	EE	(D)
West Virginia	–	40	10	0.7	7.9	0.5	0.9	5.3	16.0	10.7	26.6	1.2	0.5	8.3
North Carolina	E1	204	39	2.7	29.5	2.0	3.7	19.6	57.2	41.4	98.0	4.2	1.6	25.1
South Carolina	–	69	15	1.1	12.6	0.7	1.3	7.0	16.9	11.9	28.6	2.7	1.1	11.4
Georgia	–	221	46	4.2	58.1	3.3	6.0	39.4	107.0	75.6	181.9	6.5	3.9	63.2
Florida	E1	498	69	5.2	63.0	4.0	7.4	42.9	110.1	81.1	190.7	12.5	4.3	66.3
East South Central Division:														
Kentucky	–	105	23	3.1	36.4	2.3	4.4	23.1	71.4	54.6	125.3	7.4	EE	(D)
Tennessee	–	174	41	4.2	49.5	3.3	6.0	35.4	82.4	56.5	138.6	3.6	2.4	33.5
Alabama	–	93	20	1.6	21.1	1.2	2.3	15.8	46.7	60.7	107.2	1.1	0.9	14.3
Mississippi	–	43	7	1.1	10.7	0.8	1.5	7.0	17.8	24.4	41.6	1.5	BB	(D)
West South Central Division:														
Arkansas	–	59	19	1.2	13.7	0.9	1.9	9.0	24.7	25.2	49.5	(D)	CC	(D)
Louisiana	E1	112	15	1.3	14.7	1.0	1.9	10.7	25.9	20.3	46.2	2.5	EE	(D)
Oklahoma	E1	133	17	1.4	15.8	1.1	2.0	11.6	29.0	26.8	55.8	2.0	1.0	16.9
Texas	E1	629	119	9.0	110.2	6.8	13.0	74.7	199.3	151.3	349.3	13.1	7.6	106.5
Mountain Division:														
Montana	E2	27	3	0.2	2.6	0.2	0.3	1.9	4.7	3.0	7.7	0.2	(NA)	(NA)
Idaho	E3	40	6	0.3	3.7	0.3	0.5	2.5	6.7	4.2	10.9	0.8	AA	(D)
Colorado	E1	173	24	1.9	21.8	1.4	2.5	15.0	45.5	24.1	69.2	1.8	1.2	19.7
New Mexico	E1	37	5	0.3	3.7	0.3	0.4	2.3	6.8	4.7	11.4	0.4	0.2	3.2
Arizona	E1	113	12	1.2	16.3	0.9	1.6	11.0	30.4	24.4	54.7	1.8	1.2	19.1
Utah	E1	56	11	0.9	10.6	0.7	1.3	7.2	16.6	16.1	32.3	0.9	0.4	5.9
Nevada	E1	24	4	0.3	3.5	0.3	0.5	2.7	6.7	3.5	9.8	0.2	(NA)	(NA)
Pacific Division:														
Washington	E1	171	26	1.9	26.2	1.4	2.6	18.2	49.6	27.4	76.8	4.4	1.6	26.9
Oregon	–	137	21	1.6	23.0	1.2	2.0	15.0	46.2	32.9	78.8	2.3	1.1	18.2
California	E1	1 467	219	20.1	285.7	15.4	28.8	201.5	528.8	419.3	941.9	35.3	15.0	281.9
Hawaii	E2	29	6	0.4	5.8	0.3	0.5	3.8	10.7	6.6	17.3	0.5	0.5	9.4
INDUSTRY 2753, ENGRAVING AND PLATE PRINTING														
United States	**E1**	**550**	**118**	**9.8**	**118.9**	**7.6**	**13.5**	**84.5**	**230.8**	**85.1**	**314.9**	**17.8**	**9.6**	**152.4**
New England Division:														
Massachusetts	E1	24	9	0.7	7.4	0.6	1.0	5.3	15.1	5.7	20.7	0.7	0.7	11.7
Connecticut	E2	13	1	0.2	2.1	0.1	0.3	1.7	3.7	1.2	5.0	(D)	0.2	2.9
Middle Atlantic Division:														
New York	–	75	15	2.2	31.4	1.7	2.8	23.7	70.6	21.2	92.8	3.9	1.9	38.1
New Jersey	E2	27	7	0.3	4.0	0.2	0.4	2.6	8.2	3.0	11.3	0.3	0.6	8.5
Pennsylvania	E1	39	10	1.3	14.0	1.1	2.1	10.4	23.4	12.2	34.5	5.4	0.5	8.0
East North Central Division:														
Ohio	E1	19	6	0.3	3.2	0.2	0.4	2.2	6.6	2.0	8.6	0.2	0.4	5.2
Indiana	–	15	4	0.2	2.4	0.2	0.3	1.4	4.3	1.6	5.8	0.1	0.2	2.5
Illinois	E1	40	10	0.8	9.7	0.6	1.0	6.7	18.2	8.4	26.2	3.5	0.7	12.0
South Atlantic Division:														
North Carolina	–	11	2	0.2	1.6	0.1	0.3	1.2	2.6	0.9	3.6	(Z)	(NA)	(NA)
Florida	E1	16	3	0.2	1.6	0.1	0.2	1.1	2.7	1.1	3.8	(D)	BB	(D)
East South Central Division:														
Kentucky	E1	11	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	3.6
Alabama	E2	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Texas	E2	45	7	0.4	3.9	0.3	0.5	2.6	8.3	3.2	11.5	0.2	CC	(D)
Pacific Division:														
California	–	60	13	1.0	14.7	0.8	1.4	9.6	27.0	10.3	36.9	1.5	CC	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2754, COMMERCIAL PRINTING, GRAVURE													
United States	-	**424**	**98**	**19.0**	**291.6**	**15.8**	**30.8**	**231.5**	**541.4**	**521.1**	**1 056.8**	**98.5**	**20.0**	**372.2**
New England Division:													
Massachusetts	E1	17	6	0.4	5.6	0.4	0.7	4.3	10.0	9.1	19.2	0.5	BB	(D)
Rhode Island	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Connecticut	-	8	3	0.2	1.7	0.2	0.2	1.3	3.3	1.9	5.1	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	E1	55	6	0.6	6.6	0.5	0.9	5.1	11.6	17.2	28.8	1.6	0.7	14.6
New Jersey	-	19	6	0.4	5.2	0.3	0.6	4.0	8.4	3.5	12.0	0.6	1.0	22.1
Pennsylvania	-	21	7	2.4	36.4	2.0	3.5	28.6	57.6	78.1	135.1	5.8	2.7	43.0
East North Central Division:														
Ohio	-	25	5	1.0	15.4	0.9	1.6	12.8	29.0	29.9	58.6	1.7	1.4	21.9
Indiana	-	8	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois	-	30	13	3.2	55.2	2.7	5.5	45.8	99.2	62.1	159.9	19.2	4.2	71.3
Michigan	-	12	5	0.4	4.5	0.3	0.6	3.6	8.3	9.3	17.3	0.7	BB	(D)
Wisconsin	-	11	6	0.9	15.3	0.6	1.3	10.4	22.7	26.1	49.0	1.1	CC	(D)
West North Central Division:														
Missouri	-	14	2	0.6	9.5	0.5	1.0	6.5	14.7	17.3	32.3	(D)	CC	(D)
South Atlantic Division:														
Maryland	-	7	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Virginia	-	11	5	1.0	11.0	0.7	1.3	8.6	29.1	26.2	54.6	8.7	CC	(D)
North Carolina	-	17	7	0.6	7.6	0.5	1.1	6.0	17.8	31.6	49.0	1.7	CC	(D)
Florida	E2	13	2	0.2	2.6	0.2	0.3	2.0	4.9	5.5	10.4	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	4	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.3	36.3
Tennessee	-	10	4	0.9	14.8	0.8	1.7	12.5	27.0	39.4	66.4	(D)	CC	(D)
Mississippi	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	-	21	5	0.5	5.1	0.4	0.7	3.8	10.2	10.4	20.5	(D)	(NA)	(NA)
Pacific Division:														
California	-	40	6	1.6	25.3	1.5	2.4	20.5	41.2	24.0	65.1	1.0	CC	(D)
INDUSTRY 2761, MANIFOLD BUSINESS FORMS														
United States	-	**795**	**477**	**45.3**	**575.0**	**33.3**	**67.3**	**390.9**	**1 491.6**	**1 418.0**	**2 893.8**	**82.1**	**38.6**	**823.6**
New England Division:														
New Hampshire	-	5	4	0.6	7.3	0.4	0.9	4.9	19.1	12.4	31.2	0.6	CC	(D)
Vermont	-	3	3	0.5	6.5	0.4	0.9	5.0	23.8	18.6	42.2	1.2	BB	(D)
Massachusetts	-	12	11	0.6	8.9	0.5	0.9	5.5	17.3	13.2	30.6	0.3	CC	(D)
Rhode Island	-	5	5	0.2	2.6	0.2	0.3	1.6	4.5	4.7	9.2	0.2	0.2	3.4
Connecticut	-	16	11	0.9	12.4	0.7	1.4	9.1	31.1	41.5	72.5	3.9	0.8	20.1
Middle Atlantic Division:														
New York	-	72	32	2.7	36.8	2.0	4.0	23.6	86.3	68.7	155.0	4.2	2.5	47.4
New Jersey	E1	33	16	1.0	13.6	0.7	1.3	7.7	27.0	25.3	52.2	(D)	CC	(D)
Pennsylvania	-	50	32	3.1	41.6	2.4	5.1	30.6	144.4	147.7	290.4	6.9	FF	(D)
East North Central Division:														
Ohio	-	36	21	3.6	46.9	2.8	5.6	35.6	125.4	109.8	233.9	6.9	3.2	78.7
Indiana	-	11	6	0.8	10.5	0.6	1.2	7.1	31.9	22.5	53.8	(D)	0.7	16.5
Illinois	-	59	39	3.5	49.1	2.6	5.2	34.4	116.5	123.3	239.0	7.5	3.4	73.9
Michigan	E1	33	16	1.3	18.7	0.8	1.6	10.8	37.6	46.8	84.3	2.3	1.0	19.2
Wisconsin	-	18	13	1.2	15.9	0.9	1.8	10.6	48.6	55.7	103.8	1.5	1.0	24.6
West North Central Division:														
Minnesota	E4	15	8	0.5	7.0	0.4	0.7	3.9	13.3	11.7	24.9	0.9	BB	(D)
Iowa	-	14	11	0.9	11.9	0.7	1.4	7.3	29.9	25.6	55.1	(D)	0.6	13.6
Missouri	E1	20	10	0.9	9.2	0.6	1.2	6.2	18.9	25.1	44.0	1.7	0.9	14.1
Nebraska	-	4	4	0.3	3.6	0.2	0.3	1.8	4.8	12.1	16.8	0.3	CC	(D)
Kansas	-	14	10	1.2	13.8	1.0	2.0	9.7	26.4	24.1	50.4	1.9	1.0	14.2
South Atlantic Division:														
Maryland	-	14	8	1.5	15.4	1.0	1.9	10.5	40.6	46.6	88.2	2.9	1.3	27.1
District of Columbia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	14	11	1.0	10.6	0.7	1.4	7.6	33.5	39.2	71.9	2.6	0.8	14.7
West Virginia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
North Carolina	E1	27	15	0.9	11.0	0.7	1.4	8.3	22.2	23.2	45.2	1.2	0.8	10.3
South Carolina	E1	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	-	28	16	1.1	12.2	0.8	1.6	8.6	35.8	26.8	62.5	2.4	BB	(D)
Florida	-	24	14	0.7	9.1	0.5	1.0	5.9	18.3	19.0	37.2	1.2	0.8	13.1
East South Central Division:														
Kentucky	-	4	3	0.6	5.7	0.5	0.9	4.3	18.7	10.2	28.2	1.2	AA	(D)
Tennessee	E5	14	6	0.3	3.5	0.2	0.4	2.4	6.9	6.3	13.2	0.5	0.4	3.7
Alabama	-	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	15.3
West South Central Division:														
Arkansas	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Louisiana	E1	11	8	0.5	5.3	0.4	0.7	3.5	12.5	7.7	20.3	0.4	AA	(D)
Oklahoma	-	9	6	0.8	9.1	0.6	1.2	6.5	22.6	27.6	49.2	(D)	0.8	12.6
Texas	-	48	32	4.3	49.9	3.1	6.6	31.8	115.0	101.7	215.9	4.4	3.4	64.3
Mountain Division:														
Idaho	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Colorado	-	6	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	3.1
Arizona	E1	13	4	0.3	4.4	0.2	0.5	2.8	8.3	10.2	18.1	1.1	0.2	3.2
Utah	-	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	12.5
Pacific Division:														
Washington	E1	13	6	0.4	5.8	0.3	0.5	3.4	10.4	8.3	18.8	0.6	0.3	4.0
Oregon	E2	14	9	0.7	9.2	0.5	1.1	6.6	30.8	26.5	56.8	1.8	0.6	16.3
California	-	97	60	4.9	66.4	3.5	6.8	43.3	191.5	166.7	354.4	9.8	3.9	99.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Commercial printing, letterpress (SIC 2751)	Commercial printing, lithographic (SIC 2752)	Engraving and plate printing (SIC 2753)	Commercial printing, gravure (SIC 2754)	Manifold business forms (SIC 2761)
Primary product specialization ratio[1]	percent	89	87	88	91	93
Coverage ratio[2]	do	81	88	92	83	95
All establishments	number	14 521	11 320	550	424	795
With 1 to 19 employees	do	13 462	8 958	432	326	318
With 20 to 99 employees	do	935	1 967	101	63	348
With 100 employees or more	do	124	395	17	35	129
All employees, average for year	1,000	110.9	216.3	9.8	19.0	45.3
Payroll for year, all employees	mil. dol.	1 307.3	2 984.1	118.9	291.6	575.0
Production workers:						
Average for year	1,000	88.0	163.7	7.6	15.8	33.3
March	do	85.4	160.9	7.5	15.1	32.9
May	do	86.7	161.9	7.5	15.6	33.0
August	do	87.7	164.0	7.5	15.9	33.1
November	do	88.4	166.4	7.5	16.6	34.1
Hours	millions	159.6	307.4	13.5	30.8	67.3
January to March	do	40.4	75.4	3.5	7.3	16.5
April to June	do	39.0	75.1	3.5	7.5	16.7
July to September	do	39.7	77.3	3.2	7.9	16.7
October to December	do	40.5	79.6	3.3	8.2	17.3
Wages	mil. dol.	913.6	2 045.7	84.5	231.5	390.9
Cost of materials, etc.	do	1 852.6	4 061.6	85.1	521.1	1 418.0
Materials, parts, containers, etc., consumed	do	1 600.8	3 366.0	71.8	487.9	1 298.4
Resales	do	51.1	195.6	3.5	4.4	85.6
Fuels consumed	do	18.5	32.8	1.1	9.1	5.2
Purchased electric energy	do	45.2	76.8	3.1	11.6	18.9
Contract work	do	137.0	390.4	5.6	8.1	9.9
Value of shipments, including resales	do	4 284.3	9 359.7	314.9	1 056.8	2 893.8
Value of resales	do	57.7	215.1	6.5	4.5	140.1
Value added by manufacture	do	2 440.4	5 338.4	230.8	541.4	1 491.6
Manufacturers' inventories:						
Beginning of year	do	345.8	747.1	20.6	86.7	313.7
Finished products	do	72.9	125.3	1.0	10.8	87.5
Work in process	do	91.1	223.3	9.4	24.7	39.2
Materials, supplies, fuel, etc.	do	181.8	398.5	10.2	51.1	187.0
End of year	do	372.7	861.9	23.5	101.7	336.7
Finished products	do	77.3	134.4	1.6	13.6	96.6
Work in process	do	95.4	254.5	9.8	27.5	46.0
Materials, supplies, fuel, etc.	do	200.0	473.0	12.1	60.5	194.1
Capital expenditures for plant and equipment	do	172.8	402.7	18.2	101.4	91.0
New capital expenditures	do	163.0	360.2	17.8	98.5	82.1
New buildings and other structures	do	32.0	56.9	3.5	22.5	12.5
New machinery and equipment	do	131.0	303.3	14.3	76.0	69.6
Used capital expenditures	do	9.8	42.5	0.5	2.8	8.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Commercial printing, letterpress (SIC 2751)		Commercial printing, lithographic (SIC 2752)		Engraving and plate printing (SIC 2753)		Commercial printing, gravure (SIC 2754)		Manifold business forms (SIC 2761)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	(4.1)	18	12.1	9	(0.3)	22	(1.5)	21	2.9	8
Response coverage ratio[2] (percent)	52.0	(X)	55.1	(X)	52.0	(X)	66.6	(X)	47.6	(X)
Machinery	(52.4)	53	53.9	7	(1.5)	25	10.0	9	(16.1)	88
Response coverage ratio[2] (percent)	58.4	(X)	56.3	(X)	62.0	(X)	69.9	(X)	54.4	(X)
Cost of purchased communication services	(36.8)	64	32.0	10	(1.0)	26	(2.5)	18	(10.6)	92
Response coverage ratio[2] (percent)	54.8	(X)	55.9	(X)	63.0	(X)	68.2	(X)	50.1	(X)
Rental payments	48.8	6	131.6	5	4.8	14	5.0	10	21.9	10
Buildings and other structures	33.3	8	73.4	7	(3.9)	15	(2.5)	16	14.8	14
Machinery and equipment	15.5	11	58.0	6	(0.9)	28	2.6	12	7.2	14
Supplemental labor costs	176.7	3	432.0	2	18.0	4	44.7	3	87.6	3
Legal costs	94.4	4	209.3	2	8.5	3	19.9	3	42.6	2
Voluntary costs	82.4	4	222.7	3	9.5	6	24.8	3	45.0	3
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	295.1	7	583.6	3	(20.0)	23	117.0	5	158.4	5
New capital expenditures	27.5	12	49.5	13	2.9	11	19.9	3	10.4	9
Used capital expenditures	(4.2)	39	(10.8)	37	(0.1)	26	(1.5)	30	(5.3)	86
Retirements	(11.0)	33	(11.5)	34	(0.3)	39	1.8	6	(2.8)	31
End of year	315.8	6	632.5	3	(22.6)	20	136.1	4	171.2	6
Machinery and equipment:										
Beginning of year	1,013.6	2	2,533.0	1	69.7	12	391.4	3	683.8	3
New capital expenditures	170.9	8	326.8	6	15.8	10	75.6	3	80.4	9
Automobiles, trucks, etc., for highway use[3]	(5.4)	(A)	(11.8)	22	(0.3)	(A)	(0.3)	(A)	(0.6)	(A)
Computers and peripheral data processing equipment[3]	(3.2)	(A)	(13.6)	18	(0.4)	(A)	(0.5)	(A)	(2.8)	(A)
All other[3]	84.8	10	201.1	9	(4.7)	(A)	(72.4)	28	(64.1)	21
New machinery and equipment, n.s.k.[4]	(77.6)	(A)	(100.5)	(A)	(10.5)	(A)	(2.3)	(A)	(12.8)	(A)
Used capital expenditures	(12.3)	26	(50.7)	24	(0.4)	31	(0.7)	26	(11.6)	40
Retirements	47.2	14	137.2	8	(2.7)	18	14.0	6	38.5	13
End of year	1,149.6	1	2,773.4	1	83.2	10	453.6	2	737.3	3
Total gross value of depreciable assets:										
Beginning of year	1,309.1	2	3,116.9	1	89.7	12	508.4	3	842.1	3
New capital expenditures	198.4	8	376.4	6	18.7	9	95.0	2	90.8	8
Used capital expenditures	(16.5)	22	(61.6)	21	(0.5)	29	(2.2)	22	(16.9)	54
Retirements	58.1	14	148.7	9	(3.1)	19	15.8	6	41.3	12
End of year	1,465.9	2	3,406.1	1	105.8	10	589.7	2	908.4	3
Depreciation charges during 1977	106.4	3	270.2	5	6.5	9	34.4	3	57.7	3
Buildings and other structures	15.2	8	35.2	10	(0.9)	28	4.5	4	6.5	7
Machinery and equipment	91.2	4	235.0	5	5.7	8	29.9	3	51.2	4

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2751, COMMERCIAL PRINTING, LETTERPRESS												
Total	**E2**	**14 521**	**110.9**	**1 307.3**	**88.0**	**159.6**	**913.6**	**2 440.4**	**1 852.6**	**4 284.3**	**163.0**	**372.7**
Establishments with an average of—												
1 to 4 employees	E8	10 574	14.5	163.9	14.1	21.5	113.8	350.4	243.8	594.7	23.4	46.1
5 to 9 employees	E3	1 721	11.4	119.1	8.8	15.0	82.4	218.9	154.3	372.2	12.5	27.1
10 to 19 employees	E2	1 167	15.8	164.7	12.0	20.6	111.3	291.3	210.3	500.3	17.0	39.2
20 to 49 employees	E2	722	21.2	236.7	16.0	29.8	156.8	446.3	304.5	748.5	27.4	61.1
50 to 99 employees	E1	213	14.6	170.5	11.0	21.5	114.4	322.4	265.2	585.0	21.0	60.9
100 to 249 employees	–	98	14.4	173.8	11.1	21.7	119.0	339.3	268.7	605.9	21.1	62.2
250 to 499 employees	–	17	5.2	59.8	3.9	7.5	42.2	109.8	123.9	233.1	(40.6)	34.8
500 to 999 employees	–	5	3.4	40.4	2.7	4.5	29.7	82.4	73.2	156.3	(D)	10.5
1,000 to 2,499 employees	–	2	(10.3)	(178.4)	(8.4)	(17.3)	(143.9)	(279.5)	(208.7)	(488.4)	(D)	(30.8)
2,500 employees or more	–	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	9 186	14.3	161.0	13.4	21.3	111.6	331.0	226.7	557.7	19.7	44.8
INDUSTRY 2752, COMMERCIAL PRINTING, LITHOGRAPHIC												
Total	**–**	**11 320**	**216.3**	**2 984.1**	**163.7**	**307.4**	**2 045.7**	**5 338.4**	**4 061.6**	**9 359.7**	**360.2**	**861.9**
Establishments with an average of—												
1 to 4 employees	E7	5 178	8.4	112.4	8.1	12.3	78.4	235.3	164.0	403.0	13.5	33.5
5 to 9 employees	E1	1 896	13.0	152.7	9.8	16.8	106.1	280.2	190.5	468.6	13.9	32.0
10 to 19 employees	E1	1 883	25.4	296.1	18.7	31.7	200.5	516.9	361.4	875.5	29.5	59.5
20 to 49 employees	E1	1 456	43.9	581.3	32.6	61.7	380.7	1 029.0	717.2	1 740.6	72.5	122.1
50 to 99 employees	–	512	35.0	503.9	25.9	49.8	334.8	891.4	673.3	1 558.1	57.8	128.3
100 to 249 employees	–	307	46.0	662.6	34.8	68.4	458.4	1 210.6	1 014.1	2 208.1	88.5	229.6
250 to 499 employees	–	58	20.5	318.5	16.1	31.9	236.3	552.5	470.9	1 024.2	(84.5)	119.4
500 to 999 employees	–	25	16.5	254.9	11.7	22.8	170.6	448.5	329.5	769.6	(D)	112.4
1,000 to 2,499 employees	–	5	7.4	101.5	6.0	11.9	80.0	174.0	140.6	312.0	(D)	25.1
Covered by administrative records[2]	E0	4 287	7.1	96.9	6.7	10.5	67.3	188.2	137.0	325.2	10.8	28.3
INDUSTRY 2753, ENGRAVING AND PLATE PRINTING												
Total	**E1**	**550**	**9.8**	**118.9**	**7.6**	**13.5**	**84.5**	**230.8**	**85.1**	**314.9**	**17.8**	**23.5**
Establishments with an average of—												
1 to 4 employees	E7	273	0.4	5.1	0.4	0.5	3.5	11.5	3.4	14.9	0.2	1.1
5 to 9 employees	E2	78	0.6	6.5	0.4	0.7	4.5	11.5	5.0	16.5	0.4	1.0
10 to 19 employees	E1	81	1.1	12.3	0.9	1.4	8.7	23.3	7.6	30.8	0.6	1.8
20 to 49 employees	E1	81	2.4	27.4	1.8	3.2	18.2	47.5	19.7	67.2	2.5	3.9
50 to 99 employees	–	20	1.3	15.7	1.0	1.8	11.3	28.9	10.0	38.3	0.9	3.0
100 to 249 employees	–	13	(4.1)	(51.9)	(3.1)	(5.9)	(38.3)	(108.1)	(39.3)	(147.1)	(13.2)	(12.9)
250 to 499 employees	–	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	–	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	–	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	218	0.3	4.4	0.3	0.5	3.0	9.5	2.9	12.5	0.2	0.9
INDUSTRY 2754, COMMERCIAL PRINTING, GRAVURE												
Total	**–**	**424**	**19.0**	**291.6**	**15.8**	**30.8**	**231.5**	**541.4**	**521.1**	**1 056.8**	**98.5**	**101.7**
Establishments with an average of—												
1 to 4 employees	E5	120	0.2	3.2	0.2	0.3	2.5	6.2	5.9	12.0	0.4	1.0
5 to 9 employees	E3	113	0.8	9.3	0.7	1.2	7.4	17.7	12.8	30.4	1.4	2.4
10 to 19 employees	E1	93	1.2	13.8	1.0	1.8	10.9	28.0	19.7	47.6	1.1	3.6
20 to 49 employees	E1	35	1.0	13.0	0.8	1.5	9.2	20.7	20.0	40.4	6.3	4.6
50 to 99 employees	–	28	2.0	28.5	1.6	3.1	21.8	52.8	55.1	107.6	4.4	10.8
100 to 249 employees	–	13	2.4	35.3	1.9	3.8	28.6	69.2	80.6	148.6	10.2	13.4
250 to 499 employees	–	16	5.7	92.9	4.8	9.3	71.9	151.0	166.1	314.6	56.6	36.1
500 to 999 employees	–	4	(5.7)	(95.6)	(4.9)	(9.7)	(79.2)	(195.9)	(160.8)	(355.8)	(18.1)	(29.7)
1,000 to 2,499 employees	–	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	114	0.5	7.9	0.4	0.8	6.3	13.6	13.6	27.2	1.0	2.8
INDUSTRY 2761, MANIFOLD BUSINESS FORMS												
Total	**–**	**795**	**45.3**	**575.0**	**33.3**	**67.3**	**390.9**	**1 491.6**	**1 418.0**	**2 893.8**	**82.1**	**336.7**
Establishments with an average of—												
1 to 4 employees	E7	128	0.2	2.7	0.2	0.3	1.9	6.2	5.8	12.4	0.5	1.5
5 to 9 employees	E6	79	0.5	6.8	0.4	0.8	4.7	16.1	12.8	28.7	1.7	3.1
10 to 19 employees	E3	110	1.6	19.8	1.1	2.2	12.4	39.5	38.0	77.5	1.8	8.5
20 to 49 employees	–	217	7.0	86.2	5.1	10.1	55.6	186.7	191.5	375.8	12.4	39.4
50 to 99 employees	–	131	9.0	116.5	6.6	13.4	76.2	259.5	319.9	576.9	20.1	68.4
100 to 249 employees	–	100	15.6	201.2	11.5	23.8	139.8	601.9	554.2	1 147.1	29.0	132.6
250 to 499 employees	–	25	8.2	101.2	6.0	12.0	73.0	289.7	224.8	512.4	13.8	63.1
500 to 999 employees	–	5	3.2	40.4	2.3	4.7	27.3	92.0	71.2	162.9	2.8	20.0
Covered by administrative records[2]	E0	181	1.0	13.1	0.8	1.5	8.9	27.5	25.6	53.1	1.4	6.2

– Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2751	**Commercial printing, letterpress:**										
	Entire industry	14 521	110.9	1 307.3	88.0	159.6	913.6	2 440.4	1 852.6	4 284.3	163.0
	Establishments with 75 percent specialization or more	13 929	91.9	1 036.8	73.4	130.8	717.8	1 957.6	1 493.2	3 444.1	129.3
27511	Magazine and periodical printing, letterpress:										
	Establishments with this product class primary	94	13.5	215.3	10.9	22.0	172.6	345.6	274.5	620.1	34.0
	Establishments with 75 percent specialization or more in class	50	5.0	72.5	4.1	7.9	61.9	105.6	103.8	210.3	(D)
27512	Labels and wrappers printing, letterpress:										
	Establishments with this product class primary	306	11.6	145.2	8.4	16.9	92.9	290.3	328.2	615.3	20.6
	Establishments with 75 percent specialization or more in class	220	8.0	96.9	5.7	11.1	60.3	191.5	225.7	415.5	15.2
27513	Catalog and directory printing, letterpress:										
	Establishments with this product class primary	54	3.2	45.0	2.6	5.2	35.1	94.7	111.6	206.1	5.8
	Establishments with 75 percent specialization or more in class	20	1.0	13.2	0.8	1.7	9.8	30.5	42.4	72.7	(D)
27514	Financial and legal printing, letterpress:										
	Establishments with this product class primary	81	3.2	44.7	2.6	5.0	34.4	74.0	41.0	115.2	3.9
	Establishments with 75 percent specialization or more in class	52	1.9	23.3	1.5	3.1	18.3	37.8	23.1	60.9	(D)
27515	Advertising printing, letterpress:										
	Establishments with this product class primary	262	5.5	64.1	4.1	7.6	43.9	121.2	112.2	232.6	8.3
	Establishments with 75 percent specialization or more in class	160	3.3	38.4	2.7	5.0	28.0	75.8	75.5	151.0	6.0
27516	Other general job printing, letterpress:										
	Establishments with this product class primary	891	18.6	191.1	14.3	24.7	129.3	355.2	228.4	581.1	19.2
	Establishments with 75 percent specialization or more in class	634	14.0	140.2	10.8	18.4	95.1	267.5	176.4	441.9	14.3
27519	Screen process printing, except textiles:										
	Establishments with this product class primary	407	10.8	116.3	8.2	14.9	72.0	204.3	107.3	311.5	7.3
	Establishments with 75 percent specialization or more in class	366	8.7	90.9	6.7	12.2	57.3	158.5	87.8	246.0	6.3
2752	**Commercial printing, lithographic:**										
	Entire industry	11 320	216.3	2 984.1	163.7	307.4	2 045.7	5 338.4	4 061.6	9 359.7	360.2
	Establishments with 75 percent specialization or more	9 799	159.9	2 225.0	122.0	228.1	1 519.3	4 056.2	3 090.8	7 112.0	285.5
27521	Magazine and periodical printing, lithographic:										
	Establishments with this product class primary	367	37.4	509.2	30.3	59.2	389.2	876.7	709.5	1 581.7	67.8
	Establishments with 75 percent specialization or more in class	113	9.3	120.5	7.7	14.5	89.3	222.7	183.4	406.1	23.2
27522	Labels and wrappers printing, lithographic:										
	Establishments with this product class primary	191	8.5	121.6	6.5	12.5	87.4	234.1	188.8	421.0	13.1
	Establishments with 75 percent specialization or more in class	82	3.4	48.2	2.7	5.2	35.4	95.8	78.2	173.8	5.2
27523	Catalog and directory printing, lithographic:										
	Establishments with this product class primary	260	13.9	210.0	10.6	20.3	149.9	387.6	306.1	689.3	23.0
	Establishments with 75 percent specialization or more in class	63	2.6	33.6	1.9	3.6	24.0	64.6	50.9	114.8	3.8
27524	Financial and legal printing, lithographic:										
	Establishments with this product class primary	188	8.4	133.8	6.0	11.2	86.8	223.8	108.8	330.2	11.8
	Establishments with 75 percent specialization or more in class	70	3.7	64.3	2.7	5.1	41.4	116.8	46.9	161.8	5.2
27525	Advertising printing, lithographic:										
	Establishments with this product class primary	1 677	57.4	862.5	42.4	82.5	568.7	1 514.0	1 207.5	2 708.1	118.4
	Establishments with 75 percent specialization or more in class	673	25.5	400.5	19.1	37.3	264.0	735.6	629.9	1 359.8	55.4
27526	Other general job printing, lithographic:										
	Establishments with this product class primary	2 502	55.9	692.2	40.2	72.1	450.5	1 258.3	959.7	2 203.0	66.7
	Establishments with 75 percent specialization or more in class	1 290	27.6	336.0	20.6	36.9	224.3	621.6	487.3	1 100.0	32.2
2753	**Engraving and plate printing:**										
	Entire industry	550	9.8	118.9	7.6	13.5	84.5	230.8	85.1	314.9	17.8
	Establishments with 75 percent specialization or more	497	7.8	93.8	6.1	10.8	68.0	184.0	62.7	246.9	(D)
2754	**Commercial printing, gravure:**										
	Entire industry	424	19.0	291.6	15.8	30.8	231.5	541.4	521.1	1 056.8	98.5
	Establishments with 75 percent specialization or more	365	16.2	253.9	13.7	26.7	204.8	473.0	435.1	902.9	91.9
27541	Magazine and periodical printing, gravure:										
	Establishments with this product class primary	10	5.0	80.7	4.2	7.8	65.8	145.0	112.1	255.9	24.3
	Establishments with 75 percent specialization or more in class	7	3.7	59.6	3.1	5.7	48.1	105.8	85.7	190.1	(D)
27542	Labels and wrappers printing, gravure:										
	Establishments with this product class primary	26	3.5	45.9	2.7	5.5	34.6	85.4	168.1	251.8	11.1
	Establishments with 75 percent specialization or more in class	19	2.1	26.4	1.7	3.4	21.0	53.6	100.5	152.7	8.1
27543	Catalog and directory printing, gravure:										
	Establishments with this product class primary	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
27544	Financial and legal printing, gravure:										
	Establishments with this product class primary	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
27545	Advertising printing, gravure:										
	Establishments with this product class primary	16	2.1	37.9	1.8	3.6	31.1	73.8	64.0	137.9	8.4
	Establishments with 75 percent specialization or more in class	8	0.5	7.8	0.4	0.7	6.5	16.3	12.6	29.0	0.8
27546	Other general job printing, gravure:										
	Establishments with this product class primary	20	1.2	16.0	0.9	1.8	10.4	27.8	30.4	58.6	1.0
	Establishments with 75 percent specialization or more in class	15	1.1	14.2	0.8	1.6	9.4	24.4	26.2	51.0	0.4
27547	Gravure plates and cylinders:										
	Establishments with this product class primary	20	1.3	24.5	1.1	2.0	19.1	39.7	9.8	49.5	4.7
	Establishments with 75 percent specialization or more in class	18	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2761	**Manifold business forms:**										
	Entire industry	795	45.3	575.0	33.3	67.3	390.9	1 491.6	1 418.0	2 893.8	82.1
	Establishments with 75 percent specialization or more	684	37.9	482.1	28.1	57.2	332.9	1 266.1	1 227.4	2 481.7	69.6
27612	Unit set forms:										
	Establishments with this product class primary	282	18.7	224.8	13.5	26.9	150.2	527.4	406.8	929.7	26.7
	Establishments with 75 percent specialization or more in class	156	8.6	101.1	6.6	13.0	69.6	238.6	198.2	435.7	15.0
27613	Manifold books (including sales):										
	Establishments with this product class primary	25	2.0	23.5	1.5	2.9	15.0	73.5	33.6	106.4	1.4
	Establishments with 75 percent specialization or more in class	14	1.0	11.5	0.8	1.5	7.3	42.0	15.2	57.0	0.8
27615	Custom continuous forms:										
	Establishments with this product class primary	121	14.3	191.7	10.7	21.9	135.4	503.5	429.6	930.9	32.0
	Establishments with 75 percent specialization or more in class	54	6.5	87.0	5.0	10.3	63.1	252.8	193.4	445.6	13.3
27617	Stock continuous forms:										
	Establishments with this product class primary	73	6.7	89.1	4.9	10.2	60.0	287.7	464.0	743.0	17.3
	Establishments with 75 percent specialization or more in class	35	2.0	27.6	1.5	3.3	19.5	101.9	206.6	306.4	5.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis—Value of Receipts for an Industry and Primary Product Receipts, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of receipts					Value of primary product receipts			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2751	Commercial printing, letterpress	1977.. 4,284.3	3,724.4	477.4	82.5	89	r4,620.6	3,724.4	r896.3	81
		1972.. 3,305.8	2,802.3	421.4	82.1	87	r3,380.9	2,802.3	r578.6	r83
		1967.. 3,255.5	2,700.4	430.3	124.8	86	3,265.0	2,700.4	564.6	83
2752	Commercial printing, lithographic	1977.. 9,359.7	7,907.6	1,133.4	318.7	87	8,980.2	7,907.6	1,072.6	88
		1972.. 5,124.8	4,334.7	653.8	136.3	87	4,919.6	4,334.7	584.9	88
		1967.. 3,139.4	2,498.0	549.3	92.1	82	3,132.9	2,498.0	634.9	80
2753	Engraving and plate printing	1977.. 314.9	264.3	35.8	14.8	88	r288.7	r264.3	24.4	92
		1972.. 201.6	178.9	15.5	7.2	92	r205.7	r178.9	26.8	87
		1967.. 137.9	122.6	11.8	3.5	91	151.3	122.6	28.7	81
2754	Commercial printing, gravure	1977.. 1,056.8	955.5	92.3	9.0	91	1,146.5	955.5	191.0	83
		1972.. 697.6	598.3	91.5	7.8	87	759.1	598.3	160.8	79
		1967.. (NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
2761	Manifold business forms	1977.. 2,893.8	2,559.4	180.9	153.5	93	2,702.6	2,559.4	143.2	95
		1972.. 1,429.7	1,267.9	92.0	69.8	93	1,381.9	1,267.9	114.0	92
		1967.. 932.3	809.2	81.5	41.6	91	895.8	809.2	86.6	90

(NA) Not available. rRevised.

Table 5c. Industry-Product Analysis — Receipts by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Commercial printing, letterpress (SIC 2751)	Commercial printing lithographic (SIC 2752)	Engraving and plate printing (SIC 2753)	Commercial printing, gravure (SIC 2754)	Manifold business forms (SIC 2761)	Other industries
	Total	(X)	4,284.3	9,359.7	314.9	1,056.8	2,893.8	(X)
	Primary products	(X)	3,724.4	7,907.6	264.3	955.5	2,559.4	(X)
	Secondary products	(X)	477.4	1,133.4	35.8	92.3	180.9	(X)
	Miscellaneous receipts	(X)	82.5	318.7	14.8	9.0	153.5	(X)
2751-	Commercial printing, letterpress	4,620.6	3,724.4	407.8	7.3	38.5	37.4	405.2
27511	Magazine and periodical printing, letterpress	499.7	372.3	102.9	-	(D)	(D)	7.0
27512	Labels and wrappers printing, letterpress	746.9	514.0	47.1	-	(D)	(D)	155.3
27513	Catalog and directory printing, letterpress	197.7	166.8	23.7	-	(D)	(D)	6.3
27514	Financial and legal printing, letterpress	208.4	103.2	48.5	4.2	.2	1.7	50.7
27515	Advertising printing, letterpress	299.8	212.8	40.8	(D)	(D)	.8	44.4
27516	Other general job printing, letterpress	759.0	505.1	122.5	(D)	(D)	18.9	107.4
27519	Screen process printing, except textiles	314.7	282.9	15.8	(D)	(D)	(D)	15.5
27510	Commercial printing, letterpress, n.s.k	1,594.4	1,567.4	6.6	.5	(D)	(D)	18.8
2752-	Commercial printing, lithographic	8,980.2	275.6	7,907.6	19.6	11.9	60.4	705.1
27521	Magazine and periodical printing, lithographic	1,287.5	98.4	1,130.3	-	(D)	(D)	54.8
27522	Labels and wrappers printing, lithographic	391.3	15.2	356.6	-	(D)	(D)	13.8
27523	Catalog and directory printing, lithographic	838.3	62.5	706.9	(D)	1.3	(D)	66.9
27524	Financial and legal printing, lithographic	471.6	24.6	383.0	(D)	(D)	7.7	42.0
27525	Advertising printing, lithographic	2,407.7	23.0	2,198.3	(D)	(D)	4.2	177.5
27526	Other general job printing, lithographic	2,178.1	51.0	1,750.7	(D)	(D)	44.3	327.9
27520	Commercial printing, lithographic, n.s.k	1,405.7	1.0	1,381.7	(D)	(D)	.8	22.2
27530	Engraving and plate printing, except photoengraving	288.7	(D)	(D)	264.3	(D)	-	17.6
2754-	Commercial printing, gravure	1,146.5	73.9	(D)	(Z)	955.5	(D)	91.7
27541	Magazine and periodical printing, gravure	275.5	10.0	(D)	-	253.8	-	(D)
27542	Labels and wrappers printing, gravure	276.2	8.9	3.9	-	192.3	-	71.1
27543	Catalog and directory printing, gravure	233.5	(D)	(D)	-	(D)	-	(D)
27544	Financial and legal printing, gravure	2.2	(D)	.5	-	(D)	(D)	(D)
27545	Advertising printing, gravure	143.2	.7	4.7	-	136.8	(D)	(D)
27546	Other general job printing, gravure	69.5	(D)	3.2	-	59.4	-	(D)
27547	Gravure plates and cylinders	58.0	(D)	(D)	-	44.5	-	(D)
27540	Commercial printing, gravure, n.s.k	88.4	1.6	1.9	(Z)	83.8	-	1.1
2761-	Manifold business forms	2,702.6	7.1	96.3	(D)	(D)	2,559.4	39.5
27612	Unit set forms	885.3	5.4	61.5	(D)	(D)	806.3	12.0
27613	Manifold books (including sales)	129.5	2	(D)	-	-	122.7	(D)
27615	Custom continuous forms	896.0	-	(D)	-	-	865.2	(D)
27617	Stock continuous forms	622.2	1.5	24.0	(D)	-	596.0	(D)
27610	Manifold business forms, n.s.k	169.7	-	(D)	-	(D)	169.1	-
	Other shipments by 4-digit product group:							
2641-	Coated and glazed paper	(X)	25.9	3.3	-	(D)	(D)	(X)
2642-	Envelopes	(X)	3.2	15.4	-	(D)	(D)	(X)
2643-	Bags, except textile bags	(X)	(D)	(D)	-	(D)	-	(X)
2645-	Die-cut paper and board	(X)	(D)	(D)	(D)	(D)	25.0	(X)
2649-	Converted paper products, n.e.c	(X)	4.5	2.0	-	-	(D)	(X)
2651-	Folding paperboard boxes	(X)	-	6.1	-	-	-	(X)
2653-	Corrugated and solid fiber boxes	(X)	-	(D)	-	-	-	(X)
2654-	Sanitary food containers	(X)	-	(D)	-	-	-	(X)
2721-	Periodicals	(X)	(D)	(D)	-	-	-	(X)
2732-	Book printing	(X)	41.3	350.1	(D)	1.5	(D)	(X)
2741-	Miscellaneous publishing	(X)	(D)	5.0	-	-	-	(X)
2771-	Greeting card publishing	(X)	1.3	14.8	(D)	-	(D)	(X)
2782-	Blankbooks and looseleaf binders	(X)	1.0	7.9	-	-	(D)	(X)
2789-	Bookbinding and related work	(X)	2.4	16.2	-	(D)	(D)	(X)
2791-	Typesetting	(X)	8.7	57.8	(D)	.3	(D)	(X)
2793-	Photoengraving	(X)	.8	(D)	1.5	(D)	(D)	(X)
2795-	Lithographic platemaking services	(X)	(D)	(D)	2.4	(D)	(D)	(X)
3312-	Blast furnace and steel mill products	(X)	-	(D)	-	-	-	(X)
3411-	Metal cans	(X)	-	(D)	-	-	-	(X)
3412-	Metal barrels, drums, and pails	(X)	-	(D)	-	-	-	(X)
3497-	Metal foil and leaf	(X)	(D)	4.0	-	24.1	-	(X)
3574-	Calculating and accounting machines	(X)	-	-	-	-	(D)	(X)
3579-, 3572-	Office machines, n.e.c. and typewriters	(X)	(D)	-	-	-	(D)	(X)
3873-	Watches, clocks, and watchcases	(X)	-	(D)	-	-	-	(X)
3944-	Games, toys, and children's vehicles	(X)	-	(D)	-	-	-	(X)
3953-	Marking devices	(X)	(D)	(D)	-	-	-	(X)
3955-	Carbon paper and inked ribbons	(X)	(D)	-	-	-	11.7	(X)
3961-	Costume jewelry	(X)	-	(D)	-	-	-	(X)
3993-	Signs and advertising displays	(X)	.4	(D)	-	-	-	(X)
3999-	Manufacturing industries, n.e.c	(X)	(D)	-	-	-	-	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Receipts by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Commercial printing, letterpress (SIC 2751)	Commercial printing lithographic (SIC 2752)	Engraving and plate printing (SIC 2753)	Commercial printing, gravure (SIC 2754)	Manifold business forms (SIC 2761)	Other industries
	Miscellaneous receipts:							
93000 00	Contract work	(X)	(D)	8.7	(D)	(D)	2.5	(X)
99980 13	Sales of scrap and refuse	(X)	4.2	11.5	.2	1.7	6.9	(X)
99980 41	Receipts for research and development work	(X)	(D)	.7	(D)	(D)	(D)	(X)
99980 00	Miscellaneous receipts, including receipts for repair work, sale of scrap and refuse, etc., n.s.k.	(X)	(D)	12.7	.2	.6	(D)	(X)
99980 98	Other miscellaneous receipts, including receipts for repair work, etc	(X)	9.9	70.1	(D)	1.4	3.8	(X)
99989 00	Resales	(X)	57.7	215.1	6.5	4.5	140.1	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
2751-	2297 Non woven fabrics	(D)
	2641 Paper coating and glazing	40.4
	2642 Envelopes	10.1
	2643 Bags, except textile bags	(D)
	2645 Die-cut paper and board	(D)
	2651 Folding paperboard boxes	6.6
	2711 Newspapers	91.9
	2732 Book printing	56.5
	2782 Blankbooks and looseleaf binders	42.1
	2841 Soap and other detergents	(D)
	3579 Office machines, n.e.c	(D)
2752-	2641 Paper coating and glazing	(D)
	2651 Folding paperboard boxes	17.3
	2711 Newspapers	281.9
	2721 Periodicals	7.3
	2731 Book publishing	(D)
	Other industries with over $5 million shipments of primary products--Con.	
2752-	2732 Book printing	168.1
	2741 Miscellaneous publishing	8.3
	2771 Greeting card publishing	5.4
	2782 Blankbooks and looseleaf binders	(D)
	2791 Typesetting	7.6
	2795 Lithographic platemaking services	6.1
	3411 Metal cans	123.2
	3412 Metal barrels, drums, and pails	5.2
2754-	2641 Paper coating and glazing	(D)
	2649 Converted paper products, n.e.c	(D)
	2651 Folding paperboard boxes	(D)
	2795 Lithographic platemaking services	7.3
	3497 Metal foil and leaf	34.8
2761-	2645 Die-cut paper and board	(D)
	2732 Book printing	(D)
	2782 Blankbooks and looseleaf binders	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Value of Receipts by All Producers: 1977 and 1972

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of receipts (million dollars)
		Number of companies with receipts of $100,000 or more	Value of receipts[1] (million dollars)	
	COMMERCIAL PRINTING, LETTERPRESS			
2751- --	Total	(NA)	4,620.6	r3,380.9
27511 --	Magazine and periodical printing, letterpress	(NA)	499.7	424.3
27511 15	Magazines and periodicals, excluding magazine and comic supplements for Sunday newspapers	56	428.2	367.7
27511 17	Magazine and comic supplements for Sunday newspapers	4	71.5	47.5
27511 00	Magazine and periodical printing, letterpress, n.s.k.	(NA)		9.1
27512 --	Labels and printed rolls and sheets for packaging purposes, letterpress	(NA)	746.9	501.9
	Labels, custom and stock printed, including bordered, made of paper or foil, but excluding labels made of cloth:			
	Flat, except pressure sensitive:			
27512 11	Letterpress	64	54.7	109.4
27512 13	Flexographic	14	13.2	
	Rolls, except pressure sensitive:			
27512 15	Letterpress	23	28.3	38.7
27512 17	Flexographic	33	41.1	
	Pressure sensitive (self-adhesive):			
27512 16	Flat (letterpress)	39	25.6	13.9
27512 18	Rolls (letterpress)	41	54.9	48.0
27512 19	Flexographic (flat and rolls)	91	141.5	64.9
27512 21	Marginally punched labels, all types	43	54.3	15.8
	Printed rolls and sheets for packaging purposes:			
27512 31	Cellophane, flexographic (single web)	44	74.3	44.0
27512 33	Paper, letterpress, including flexographic (single web)	31	72.2	35.9
27512 41	Polyethylene, letterpress, including flexographic (single web)	46	83.7	56.7
27512 43	Other, letterpress, including flexographic (multiweb and single web)	23	56.1	55.1
27512 00	Labels and printed rolls and sheets for packaging purposes, letterpress, n.s.k.	(NA)	47.0	19.5
27513 --	Catalog and directory printing, letterpress	(NA)	197.7	134.3
27513 11	Catalogs	32	57.0	29.0
	Directories:			
27513 17	Telephone	6	107.9	98.2
27513 19	Other, including business reference services	6	15.2	5.2
27513 00	Catalog and directory printing, letterpress, n.s.k.	(NA)	17.6	1.9
27514 --	Financial and legal printing, letterpress	(NA)	208.4	190.1
27514 11	SEC filing and prospectuses	23	31.1	24.8
27514 13	Annual reports and other corporate financial printing	24	17.0	12.8
27514 19	Other financial and legal printing, including insurance forms, security certificates, briefs, etc.	52	43.7	62.1
27514 25	Bank printing, including deposit slips, counter checks, business checks, imprinting of bank checks, etc., but excluding checkbooks	33	83.6	60.1
27514 27	Bank form printing, including printing of passbooks, debit and credit slips, ledger and statement sheets, installment-loan coupon books, etc., but excluding checkbooks	19	16.2	7.6
27514 00	Financial and legal printing, letterpress, n.s.k.	(NA)	16.8	22.7
27515 --	Advertising, printing, letterpress	(NA)	299.8	268.7
27515 11	Direct mail, including circulars, letters, pamphlets, cards, and printed envelopes	83	38.3	109.3
	Display advertising:			
27515 23	Posters, including outdoor advertising, car cards, and window	21	17.7	15.7
27515 25	Counters and floor displays, point-of-purchase, and other printed display material	13	14.7	10.7
	Preprinted newspaper inserts (advertising supplements not regularly issued):			
27515 31	Rolls, including hi-fi and spectacolor	18	22.0	7.7
27515 33	Sections (2 pages or more)	9	57.2	19.4
27515 41	Shopping news	13	10.8	13.2
27515 98	Other advertising printing, including brochures, pamphlets, catalog sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, etc.	97	84.6	55.9
27515 00	Advertising printing, letterpress, n.s.k.	(NA)	54.5	36.8
27516 --	Other general job printing, letterpress	(NA)	759.0	r481.6
27516 13	Scientific and technical recording charts and chart paper (containing preprinted grids and scale markings), excluding pen ruled	28	27.7	27.7
27516 24	Trading stamps and all types of seals, including private and decorative stamps	1	(D)	(D)
27516 34	Food and beverage checks	6	2.5	2.7
27516 41	Newspapers	39	70.1	r51.2
27516 44	Ticket, coupon, and food and beverage check printing, including transportation and amusement	25	44.8	23.0
27516 51	Decalcomanias and pressure sensitives (self-adhesive), including bumper stickers, etc., but excluding labels	9	12.1	5.2
27516 71	Business forms, n.e.c., excluding blankbooks and looseleaf forms	112	81.0	80.8
27516 75	Tags, printed, including embossed	28	58.1	31.4
27516 81	Playing cards, printed	3	(D)	5.0
27516 83	Credit and identification cards, printed (plastics, paper laminations, etc.) including flexographic	8	6.9	13.4
27516 91	Printing on metal	3	1.3	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Value of Receipts by All Producers: 1977 and 1972**—Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of receipts (million dollars)
		Number of companies with receipts of $100,000 or more	Value of receipts[1] (million dollars)	
	COMMERCIAL PRINTING, LETTERPRESS--Con.			
27516 --	Other general job printing, letterpress--Con.			
27516 93	Calendars and calendar pads	18	47.1	29.1
27516 98	All other general commercial printing, letterpress, including flexographic, n.e.c.	175	194.3	135.8
27516 00	Other general job printing, letterpress, n.s.k.	(NA)	203.4	68.6
27519 --	Screen process printing, except textiles	(NA)	314.7	172.1
27519 11	Decalcomanias and pressure sensitives (self-adhesive), including bumper stickers, etc., but excluding labels	58	83.4	35.9
	Labels, custom and stock printed, including bordered, made of paper or foil, but excluding labels made of cloth:			
27519 15	Decalcomanias, except pressure sensitive	10	10.0	10.9
27519 17	Pressure sensitive, flat and rolls	35	42.9	34.3
	Display advertising:			
27519 23	Posters, including outdoor advertising, car cards, and window	47	24.9	25.8
27519 25	Counter and floor displays, point-of-purchase, and other printed display material	35	27.6	14.9
27519 29	Other advertising printing, including direct mail, brochures, pamphlets, catalog sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine and newspaper inserts, etc	23	14.6	12.7
27519 81	Printing on metal	12	5.7	4.8
27519 85	Printing on glass or plastic containers for others	11	17.9	7.3
27519 98	All other screen process printing, n.e.c.	41	23.3	14.7
27519 00	Screen process printing, except textiles, n.s.k.	(NA)	64.4	10.8
27510 00	Commerical printing, letterpress, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	1,035.2	633.6
27510 02	Commerical printing, letterpress, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	559.2	574.3
	COMMERCIAL PRINTING, LITHOGRAPHIC			
2752- --	Total	(NA)	8,980.2	4,919.6
27521 --	Magazine and periodical printing, lithographic	(NA)	1,287.5	631.6
	Magazines and periodicals, excluding magazines and comic supplements for Sunday newspapers:			
27521 12	Sheet-fed	375	257.4	163.9
27521 14	Web-fed	189	951.3	r365.6
27521 17	Magazine and comic supplements for Sunday newspapers	14	18.0	r52.4
27521 00	Magazine and periodical printing, lithographic, n.s.k.	(NA)	60.8	49.7
27522 --	Labels and printed rolls and sheets for packaging purposes, lithographic	(NA)	391.3	280.3
	Labels, custom and stock printed, including bordered, made of paper or foil, but excluding labels made of cloth:			
	Flat, except pressure sensitive:			
27522 11	Sheet-fed	172	270.7	194.8
27522 13	Web-fed	13	15.9	28.8
27522 17	Pressure sensitive, flat and rolls	36	27.5	24.1
	Printed rolls and sheets for packaging purposes:			
27522 34	Paper (single web)	14	23.4	11.7
27522 43	Other, including multiweb structures	7	8.3	6.7
27522 00	Labels and printed rolls and sheets for packaging purposes, lithographic, n.s.k.	(NA)	45.5	14.2
27523 --	Catalog and directory printing, lithographic	(NA)	838.3	464.1
	Catalogs:			
27522 12	Sheet-fed	446	228.2	149.8
27522 14	Web-fed	135	350.2	169.4
	Directories:			
27523 17	Telephone	29	117.9	84.9
27523 19	Other, including business reference services	52	68.1	37.7
27523 00	Catalog and directory printing, lithographic, n.s.k.	(NA)	73.9	22.3
27524 --	Financial and legal printing, lithographic	(NA)	471.6	271.1
27524 11	SEC filing and prospectuses	47	65.7	60.4
27524 13	Annual reports and other corporate financial printing	196	140.4	64.6
27524 19	Other financial and legal printing, including insurance forms, security certificates, briefs, etc	120	106.0	62.6
27524 25	Bank printing, including deposit slips, counter checks, business checks, imprinting of bank checks, etc., but excluding checkbooks	70	89.0	41.4
27524 27	Bank form printing, including printing of passbooks, debit and credit slips, ledger and statement sheets, installment-loan coupon books, etc., but excluding checkbooks	38	34.2	22.4
27524 00	Financial and legal printing, lithographic, n.s.k.	(NA)	36.3	19.7
27525 --	Advertising printing, lithographic	(NA)	2,407.7	1,553.9
	Direct mail, including circulars, letters, pamphlets, cards, and printed envelopes:			
27525 12	Sheet-fed	745	493.3	461.4
27525 14	Web-fed	163	304.1	209.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Value of Receipts by All Producers: 1977 and 1972** — Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of receipts (million dollars)
		Number of companies with receipts of $100,000 or more	Value of receipts[1] (million dollars)	
2752- --	COMMERCIAL PRINTING, LITHOGRAPHIC--Con.			
	Advertising printing, lithographic--Con.			
	Display advertising:			
27525 23	Posters, including outdoor advertising, car card, and window	139	94.2	59.1
27525 25	Counter and floor displays, point-of-purchase, and other printed display material	124	76.3	53.8
	Preprinted newspaper inserts (advertising supplements not regularly issued):			
27525 32	Rolls, including hi-fi and spectacolor	61	45.8	11.8
27525 33	Sections (2 pages or more)	85	172.7	55.8
27525 41	Shopping news	56	40.5	20.0
	Other advertising printing, including brochures, pamphlets, catalog sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, etc.:			
27525 51	Sheet-fed	785	664.8	503.9
27525 53	Web-fed	164	265.5	119.1
27525 00	Advertising printing, lithographic, n.s.k.	(NA)	250.5	59.2
27526 --	Other general job printing, lithographic	(NA)	2,178.1	967.7
	Newspapers:			
27526 12	Sheet-fed	21	15.4	11.6
27526 14	Web-fed	288	218.4	119.6
27526 13	Scientific and technical recording charts and chart paper (containing preprinted grids and scale markings), except pen ruled	61	66.1	51.3
27526 21	Map, atlas, and globe cover printing, including road maps and strip maps	27	14.3	16.2
27526 43	Calendars and calendar pads	61	88.1	35.2
27526 44	Ticket, coupon, and food and beverage check printing, including transportation and amusement	17	11.0	16.1
27526 47	Playing cards, printed	9	55.5	39.2
27526 51	Decalcomanias and pressure sensitives (self-adhesive), including bumper stickers, etc., but excluding labels	23	27.7	9.7
27526 71	Trading stamps and all types of seals, including private and decorative stamps	6	10.2	9.7
27526 81	Printing on metal	16	289.3	57.0
27526 83	Credit and identification cards, printed (plastic, paper laminations, etc.)	15	21.0	10.5
	Business forms, excluding blankbooks and looseleaf forms:			
27526 92	Sheet-fed	246	121.6	119.4
27526 94	Web-fed	59	72.4	43.7
27526 95	Art reproductions and picture prints	22	13.3	11.4
	All other general commercial printing, lithographic, n.e.c.:			
27526 97	Sheet-fed	497	473.4	233.1
27526 99	Web-fed	70	180.4	35.7
27526 00	Other general job printing, lithographic, n.s.k.	(NA)	500.0	148.3
27520 00	Commercial printing, lithographic, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	1,078.8	474.9
27520 02	Commercial printing, lithographic, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	326.9	276.0
	ENGRAVING AND PLATE PRINTING			
2753- --	Total	(NA)	288.7	r205.7
27530 --	Engraving and plate printing, excluding photoengraving:			
	Kind of product:			
27530 12	Security	3	95.9	34.2
27530 22	Social	33		r34.1
27530 32	Commercial	90	61.8	r51.4
	Plates made for others, excluding duplicates:			
27530 42	Intaglio plates	5	7.3	r7.9
27530 52	Other	21	26.7	r11.1
	Duplicate plates for letterpress:			
27530 71	Rubber plates	35	30.0	10.5
27530 75	Other	10	6.2	8.7
27530 00	Engraving and plate printing, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	48.4	32.6
27530 02	Engraving and plate printing, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	12.4	15.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Value of Receipts by All Producers: 1977 and 1972**—Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of receipts (million dollars)
		Number of companies with receipts of $100,000 or more	Value of receipts[1] (million dollars)	
	COMMERCIAL PRINTING, GRAVURE			
2754- --	Total	(NA)	1,146.5	759.1
27541 --	Magazine and periodical printing, gravure	(NA)	275.5	(2)
27541 33	Magazines and periodicals, excluding magazine and comic supplements for Sunday newspapers	12	157.4	118.1
27541 35	Magazine and comic supplements for Sunday newspapers	6	117.4	77.0
27541 00	Magazine and periodical printing, gravure, n.s.k	(NA)	.7	211.7
27542 --	Labels and printed rolls and sheets for packaging purposes, gravure	(NA)	276.2	189.9
	Labels, custom and stock printed, (including bordered, made of paper or foil but excluding labels made of cloth):			
27542 21	Flat, except pressure sensitive	21	88.0	55.7
27542 24	Rolls, except pressure sensitive	21	102.5	48.1
27542 27	Pressure sensitive (self-adhesive), flat and rolls	5	1.6	(D)
	Printed rolls and sheets except bags, envelopes, pouches, etc., for packaging purposes:			
27542 31	Cellophane (single web)	3	3.6	(D)
27542 32	Paper (single web)	17	37.6	10.5
27542 35	Other, including multiweb structures	9	29.7	46.9
27542 00	Labels and printed rolls and sheets for packaging purposes, gravure, n.s.k	(NA)	13.2	-
27543 --	Catalog and directory printing, gravure	(NA)	233.5	(2)
27543 74	Catalogs	7	231.8	147.7
	Directories:			
27543 77	Telephone	-	1.7	-
27543 79	Other, including business reference services	2		(D)
27543 00	Catalog and directory printing, gravure, n.s.k	(NA)		(2)
27544 --	Financial and legal printing, gravure	(NA)	(3)	(3)
27544 11	SEC filing and prospectuses	2		
27544 13	Annual reports and other corporate financial printing	1		
27544 19	Other financial and legal printing, including insurance forms, security certificates, briefs, etc	1		
27544 25	Bank printing, including deposit slips, counter checks, business checks, imprinting of bank checks, etc., but excluding checkbooks	-	(3)	(3)
27544 27	Bank form printing, including printing of passbooks, debit and credit slips, ledger and statement sheets, installment-loan coupon books, etc., but excluding checkbooks	2		
27544 00	Financial and legal printing, gravure, n.s.k	(NA)		
27545 --	Advertising printing, gravure	(NA)	143.2	100.9
27545 11	Direct mail, including circulars, letters, pamphlets, cards, and printed envelopes	16	45.4	29.2
	Display advertising:			
27545 23	Posters, including outdoor advertising, car cards, and window	2	1.6	(D)
27545 25	Counter and floor displays, point-of-purchase, and other printed display material	3		
	Preprinted newspaper inserts (advertising supplements not regularly issued):			
27545 46	Rolls, including hi-fi and spectacolor	4	5.1	(D)
27545 47	Sections (2 pages or more)	8	87.1	34.3
27545 49	Other advertising printing, including shopping news, brochures, pamphlets, catalog sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, etc	9	3.1	19.2
27545 00	Advertising printing, gravure, n.s.k	(NA)	.9	-
27546 --	Other general job printing, gravure	(NA)	371.7	346.8
27546 11	Newspapers	4	1.3	(D)
27546 13	Scientific and technical recording charts and chart paper (containing preprinted grids and scale markings), excluding pen-ruled	3	1.1	(4)
27546 51	Decalcomanias and pressure sensitives (self-adhesive), including bumper stickers, etc., but excluding labels	5	7.5	(4)
27546 71	Business forms, n.e.c., excluding blankbooks and looseleaf forms	2	(D)	(4)
27546 73	Trading stamps and all types of seals, including private and decorative stamps	3	(D)	(D)
27546 81	Playing cards, printed	1	(D)	-
27546 83	Credit and identification cards, printed (plastics, paper laminations, etc.) including flexographic	1	(D)	(4)
27546 91	Printing on metal	-	-	(4)
27546 92	Ticket, coupon, and food and beverage check printing, including transportation and amusement	1	(D)	(D)
27546 93	Calendars and calendar pads	-	.1	(D)
27546 98	All other general commercial printing, gravure, including flexographic, n.e.c	22	347.8	3 441.5
27546 00	Other general job printing, gravure, n.s.k	(NA)	2.4	-
27547 --	Gravure plates and cylinders	(NA)	58.0	33.7
27547 71	Gravure plates and cylinders	28	58.0	33.7
27540 00	Commercial printing, gravure, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	61.2	32.1
27540 02	Commercial printing, gravure, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	27.2	(5)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Value of Receipts by All Producers: 1977 and 1972** — Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[6] (million dollars)	
	MANIFOLD BUSINESS FORMS			
2761- --	Total	(NA)	2,702.6	1,381.9
27612 --	Unit set forms	(NA)	885.3	514.2
	Unit set forms, loose or bound (all carbonless, carbonized, or carbon interleaved forms with an original and one or more copies, with or without stub), including food and beverage checks, multiple part tickets, etc.:			
	Stock, including imprinted:			
27612 13	One-time carbon	69	73.7	46.7
27612 15	Carbonless	29	31.3	8.4
	Custom printed:			
27612 53	One-time carbon	275	559.0	335.3
27612 55	Carbonless	195	149.7	75.7
27612 61	Tabulating card sets (any combination of one or more cards assembled and joined with any number of sheets, with or without carbon, held together by a common perforated stub, not in continuous style)	14	46.4	40.8
27612 00	Unit set forms, n.s.k.	(NA)	25.2	7.3
27613 --	Manifold books, including sales and pegboard accounting systems	(NA)	129.5	51.5
27613 11	Pegboard accounting systems	19	53.2	(7)
	Sales and other manifold books, including food and beverage checks and padded forms that may be used for multiple writing, but excluding blank or rule padded forms:			
27613 22	Stock	15	18.7	79.5
27613 42	Custom printed	25	57.1	740.6
27613 00	Manifold books, including sales and pegboard accounting systems, n.s.k.	(NA)	.5	1.4
27615 --	Custom continuous forms, with or without carbon, marginally punched or not marginally punched (single or multiple copy custom forms usually printed on separate sheets which are fastened or unfastened)	(NA)	896.0	553.6
	Custom tabulating cards (in continuous form, with or without a medial strip between cards, with or without a slide voucher, or top or bottom voucher):			
27615 23	One part	20	37.0	13.6
27615 27	Multiple parts	25	57.1	9.8
27615 31	Custom fanfold (multiple copy form of two or more parts, in which the parts are hinged or hinged and joined at the sides, including any combined form in which 50 percent or more of the parts are so hinged)	3	9.0	17.4
27615 51	Custom autographic register (any form of any number of parts in continuous folded packs sold for use in an autographic register machine)	14	28.5	22.9
27615 55	Self-mailer forms (a continuous form integrated into a continuous envelope)	12	39.4	(8)
	All other custom printed continuous forms:			
27615 58	One part	51	173.7	899.6
	Multiple parts:			
27615 62	One-time carbon	92	435.3	8341.8
27615 64	Carbonless	53	83.2	843.0
27615 00	Custom continuous forms, with or without carbon, marginally punched or not marginally punched, n.s.k.	(NA)	32.7	5.5
27617 --	Stock continuous forms (single or multiple copy stock forms usually printed on separate sheets which are fastened or unfastened)	(NA)	622.2	204.9
	Stock shelf forms (standard body, standard size forms, usually run in large quantities and inventoried):			
27617 61	One part	45	170.5	50.3
	Multiple parts:			
27617 63	One-time carbon	55	309.4	114.4
27617 65	Carbonless	18	37.8	4.3
	Stock format forms (shelf type stock forms, specially manufactured to supply such additional features as fastening, file hole punching, perforation, ink colors, paper color or sequence, and/or number of parts, but which are not further identified by customer):			
27617 71	One part	23	36.1	4.8
	Multiple parts:			
27617 73	One-time carbon	32	41.8	20.5
27617 75	Carbonless	17	11.1	4.5
27617 79	All other stock forms, including stock tabulating cards, fanfold, and autographic register	13	8.7	2.8
27617 00	Stock continuous forms, n.s.k.	(NA)	6.8	3.3
27610 00	Manifold business forms, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	116.6	47.6
27610 02	Manifold business forms, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	53.1	10.1

Footnotes are on next page.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. [r] Revised.

[1] Value reported by all producers of product, not just those with receipts of $100,000 or more.

[2] For 1972, product class 27541 included directories (now part of product class 27543). 1972 27541 n.s.k. includes 27543 n.s.k.

[3] For 1977 and 1972, product class 27544 was included with product code 27546 98.

[4] For 1972, product codes 27546 13, 27546 51, 27546 71, 27546 83, and 27546 91 were included with product code 27546 98.

[5] For 1972, this industry was new and administrative records were not separately identified. Data for these small establishments remained classified under Industry 2751, Commercial Printing, Letterpress.

[6] Value reported by all producers of product, not just those with shipments of $100,000 or more.

[7] For 1972, product code 27613 11 was included with product codes 27613 22 and 27613 42.

[8] For 1972, product code 27615 55 was included with product codes 27615 58, 27615 62, and 27615 64.

Table 6b. Product Classes — Value of Receipts by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of receipts (million dollars)	
	1977	1972
27511, MAGAZINE AND PERIODICAL PRINTING, LETTERPRESS		
United States	499.7	424.3
New England Division:		
Connecticut	9.1	EE
Middle Atlantic Division:		
New York	46.2	31.9
New Jersey	3.0	4.5
Pennsylvania	2.8	17.5
East North Central Division:		
Illinois	172.7	135.8
West North Central Division:		
Missouri	2.5	7.4
Pacific Division:		
California	17.6	12.2
27512, LABELS AND WRAPPERS PRINTING, LETTERPRESS		
United States	746.9	501.9
New England Division:		
Massachusetts	19.7	12.3
Rhode Island	5.2	1.6
Middle Atlantic Division:		
New Jersey	56.5	28.8
Pennsylvania	76.0	54.5
East North Central Division:		
Ohio	79.6	53.7
Indiana	12.9	4.0
Illinois	74.5	48.3
Michigan	29.3	12.8
Wisconsin	63.1	42.6
West North Central Division:		
Minnesota	13.8	8.5
Missouri	12.2	5.6
Kansas	2.3	2.4
South Atlantic Division:		
Maryland	4.7	2.4
North Carolina	32.1	15.9
South Carolina	10.4	6.7
Florida	2.1	5.8
East South Central Division:		
Tennessee	7.4	7.0
West South Central Division:		
Texas	17.5	15.1
Mountain Division:		
Colorado	6.2	2.8
Pacific Division:		
Washington	7.1	7.4
California	93.8	69.4
27513, CATALOG AND DIRECTORY PRINTING, LETTERPRESS		
United States	197.7	134.3
Middle Atlantic Division:		
New York	8.9	4.2
New Jersey	2.6	EE
East North Central Division:		
Ohio	3.4	1.3
27514, FINANCIAL AND LEGAL PRINTING, LETTERPRESS		
United States	208.4	190.1
New England Division:		
Massachusetts	8.9	12.8
Middle Atlantic Division:		
New York	37.0	42.6
New Jersey	7.3	8.0
Pennsylvania	8.4	7.3
East North Central Division:		
Ohio	13.3	9.0
Illinois	11.7	12.7
Michigan	9.5	3.4
West North Central Division:		
Missouri	3.5	2.3
South Atlantic Division:		
South Carolina	2.6	BB
Florida	2.8	8.8
East South Central Division:		
Kentucky	4.3	1.7
West South Central Division:		
Texas	16.6	5.4
Mountain Division:		
Arizona	3.0	BB
Pacific Division:		
Oregon	2.5	(NA)
California	33.6	16.6
27515, ADVERTISING PRINTING, LETTERPRESS		
United States	299.8	268.7
New England Division:		
Massachusetts	14.6	10.9
Connecticut	31.8	23.5
Middle Atlantic Division:		
New York	47.6	51.6
New Jersey	15.6	25.4
Pennsylvania	15.6	12.7
East North Central Division:		
Ohio	17.7	12.4
Indiana	5.9	8.6
Illinois	34.3	22.6
Michigan	21.0	7.2
Wisconsin	2.8	3.7
West North Central Division:		
Minnesota	7.2	4.4
Iowa	2.1	1.6
Missouri	8.5	5.2
South Atlantic Division:		
North Carolina	4.3	1.1
Georgia	7.4	7.7
Florida	4.7	5.0
East South Central Division:		
Kentucky	3.8	2.0
West South Central Division:		
Texas	10.1	9.1
Mountain Division:		
Colorado	4.8	1.0
Pacific Division:		
California	22.8	15.8

See footnotes at end of table.

Table 6b. **Product Classes — Value of Receipts by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of receipts (million dollars)	
	1977	1972
27516, OTHER GENERAL JOB PRINTING, LETTERPRESS		
United States	759.0	r481.6
New England Division:		
Massachusetts	22.1	24.8
Rhode Island	3.7	AA
Connecticut	12.1	7.1
Middle Atlantic Division:		
New York	110.9	69.9
New Jersey	42.8	20.2
Pennsylvania	63.6	32.5
East North Central Division:		
Ohio	81.0	33.3
Indiana	25.2	12.3
Illinois	55.9	r45.7
Michigan	20.7	17.6
Wisconsin	15.3	11.9
West North Central Division:		
Minnesota	29.7	5.6
Iowa	23.0	16.9
Missouri	12.6	14.9
Nebraska	5.9	2.9
Kansas	3.5	2.3
South Atlantic Division:		
Maryland	9.6	7.8
District of Columbia	3.0	(NA)
Virginia	13.4	11.4
North Carolina	7.1	3.6
South Carolina	3.5	3.1
Georgia	11.0	13.1
Florida	13.2	7.3
East South Central Division:		
Kentucky	21.3	4.3
Tennessee	13.6	5.4
Alabama	2.8	2.9
Mississippi	2.8	2.2
West South Central Division:		
Arkansas	6.6	6.1
Louisiana	4.0	5.9
Oklahoma	2.8	1.9
Texas	24.8	12.2
Mountain Division:		
Colorado	6.0	2.9
New Mexico	3.0	(NA)
Arizona	2.9	1.9
Pacific Division:		
Washington	4.8	2.6
Oregon	2.3	2.7
California	60.6	48.4
27519, SCREEN PROCESS PRINTING, EXCEPT TEXTILES		
United States	314.7	172.1
New England Division:		
Massachusetts	13.5	4.1
Connecticut	5.2	AA
Middle Atlantic Division:		
New York	21.3	14.9
New Jersey	23.7	11.5
Pennsylvania	7.5	7.3
East North Central Division:		
Ohio	32.8	12.1
Indiana	7.1	4.8
Illinois	37.1	29.9
Michigan	11.5	7.3
Wisconsin	19.4	9.8
West North Central Division:		
Minnesota	15.6	5.9
Iowa	2.5	(NA)
Missouri	8.1	3.1

Product class and geographic area	Value of receipts (million dollars)	
	1977	1972
27519, SCREEN PROCESS PRINTING, EXCEPT TEXTILES--Con.		
South Atlantic Division:		
North Carolina	3.0	(NA)
Georgia	6.2	3.5
Florida	8.7	4.7
East South Central Division:		
Tennessee	7.3	4.1
West South Central Division:		
Texas	9.6	5.2
Mountain Division:		
Colorado	3.7	1.6
Pacific Division:		
Oregon	5.1	AA
California	34.4	21.1
27521, MAGAZINE AND PERIODICAL PRINTING, LITHOGRAPHIC		
United States	1,287.5	631.6
New England Division:		
New Hampshire	29.8	EE
Vermont	7.4	4.9
Massachusetts	17.0	5.9
Rhode Island	4.3	(NA)
Connecticut	40.8	11.4
Middle Atlantic Division:		
New York	57.8	43.5
New Jersey	13.0	14.2
Pennsylvania	78.8	40.0
East North Central Division:		
Ohio	91.7	60.0
Indiana	10.6	10.5
Illinois	202.9	107.1
Michigan	17.4	13.3
Wisconsin	98.4	49.1
West North Central Division:		
Minnesota	58.3	31.3
Missouri	19.1	11.0
Kansas	12.6	6.5
South Atlantic Division:		
Maryland	58.5	27.9
District of Columbia	22.8	9.9
Virginia	37.2	5.5
North Carolina	5.9	1.8
South Carolina	3.0	(NA)
Georgia	20.0	15.5
Florida	36.7	16.8
East South Central Division:		
Kentucky	40.6	20.0
Tennessee	32.0	11.4
Alabama	4.6	2.6
West South Central Division:		
Louisiana	3.9	1.1
Texas	31.5	16.9
Mountain Division:		
Colorado	4.3	3.0
Pacific Division:		
Washington	7.1	3.0
Oregon	5.3	(NA)
California	80.2	37.1

See footnotes at end of table.

Table 6b. **Product Classes—Value of Receipts by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of receipts (million dollars)	
	1977	1972
27522, LABELS AND WRAPPERS PRINTING, LITHOGRAPHIC		
United States	391.3	280.3
New England Division:		
Massachusetts	5.1	3.4
Middle Atlantic Division:		
New York	56.2	52.2
New Jersey	9.1	17.2
Pennsylvania	17.9	12.3
East North Central Division:		
Ohio	13.0	8.6
Indiana	4.2	2.0
Illinois	83.5	56.3
Michigan	8.4	9.0
Wisconsin	12.9	16.6
West North Central Division:		
Minnesota	11.6	5.3
Missouri	12.6	9.1
South Atlantic Division:		
North Carolina	9.0	BB
Georgia	6.5	4.0
Florida	2.7	(NA)
East South Central Division:		
Kentucky	3.3	2.7
Tennessee	8.6	3.7
West South Central Division:		
Texas	4.3	4.8
Pacific Division:		
California	62.0	36.3
27523, CATALOG AND DIRECTORY PRINTING, LITHOGRAPHIC		
United States	838.3	464.1
New England Division:		
Massachusetts	39.1	29.2
Connecticut	15.1	8.7
Middle Atlantic Division:		
New York	62.1	41.4
New Jersey	10.9	7.6
Pennsylvania	40.5	23.4
East North Central Division:		
Ohio	44.2	28.3
Indiana	22.3	23.4
Illinois	131.1	82.2
Michigan	44.6	29.9
Wisconsin	61.5	23.8
West North Central Division:		
Minnesota	59.2	24.6
Iowa	8.0	4.0
Missouri	23.2	13.4
Nebraska	11.2	1.7
South Atlantic Division:		
Maryland	8.7	4.7
District of Columbia	2.7	2.2
Virginia	5.0	(NA)
North Carolina	10.5	4.5
Florida	14.9	13.0
East South Central Division:		
Kentucky	13.4	3.2
Tennessee	11.8	8.0
West South Central Division:		
Arkansas	9.4	1.2
Texas	21.7	8.7
Mountain Division:		
Colorado	5.7	1.6
Arizona	11.3	CC
Pacific Division:		
Washington	6.0	(NA)
Oregon	16.3	6.9
California	75.7	28.0
27524, FINANCIAL AND LEGAL PRINTING, LITHOGRAPHIC		
United States	471.6	271.1
New England Division:		
Massachusetts	31.4	15.8
Connecticut	8.0	3.0
Middle Atlantic Division:		
New York	117.5	75.3
New Jersey	11.6	2.6
Pennsylvania	34.5	12.4
East North Central Division:		
Ohio	11.7	8.9
Indiana	5.0	4.4
Illinois	63.1	33.8
Michigan	7.0	3.7
Wisconsin	4.3	3.2
West North Central Division:		
Minnesota	6.7	3.5
Iowa	2.2	(NA)
Missouri	5.8	2.6
Nebraska	2.0	1.1
Kansas	13.1	(NA)
South Atlantic Division:		
Maryland	7.1	5.6
District of Columbia	4.0	1.6
Virginia	6.0	(NA)
North Carolina	2.7	1.7
Georgia	10.0	2.4
Florida	3.9	4.5
East South Central Division:		
Kentucky	3.8	3.4
Tennessee	4.2	4.0
West South Central Division:		
Texas	26.8	17.6
Mountain Division:		
Colorado	4.6	3.5
Pacific Division:		
Washington	4.9	1.2
Oregon	3.2	1.4
California	47.5	35.8
27525, ADVERTISING PRINTING, LITHOGRAPHIC		
United States	2,407.7	1,553.9
New England Division:		
Maine	3.4	1.7
Vermont	3.4	3.1
Massachusetts	81.4	38.3
Rhode Island	5.0	5.3
Connecticut	71.8	45.7
Middle Atlantic Division:		
New York	298.0	261.3
New Jersey	143.7	66.8
Pennsylvania	153.5	90.3
East North Central Division:		
Ohio	158.1	97.9
Indiana	50.3	36.2
Illinois	320.1	231.7
Michigan	115.8	68.8
Wisconsin	78.0	50.7
West North Central Division:		
Minnesota	99.5	68.0
Iowa	28.7	10.0
Missouri	66.6	56.5
South Dakota	2.5	1.8
Nebraska	10.7	6.9
Kansas	16.3	12.8

See footnotes at end of table.

Table 6b. **Product Classes—Value of Receipts by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of receipts (million dollars)	
	1977	1972
27525, ADVERTISING PRINTING, LITHOGRAPHIC--Con.		
South Atlantic Division:		
Maryland	53.9	32.3
District of Columbia	12.2	11.6
Virginia	22.1	11.3
West Virginia	2.8	1.8
North Carolina	27.3	8.7
South Carolina	4.1	2.6
Georgia	29.7	24.8
Florida	40.1	22.4
East South Central Division:		
Kentucky	13.2	8.6
Tennessee	21.8	14.2
Alabama	5.3	5.1
Mississippi	5.0	(NA)
West South Central Division:		
Arkansas	7.3	4.2
Louisiana	17.8	7.5
Oklahoma	9.7	5.2
Texas	81.9	49.4
Mountain Division:		
Idaho	3.6	(NA)
Colorado	19.4	6.1
Arizona	8.8	2.7
Utah	7.8	3.2
Pacific Division:		
Washington	18.8	13.3
Oregon	17.2	13.6
California	258.4	141.2
Hawaii	3.9	AA
27526, OTHER GENERAL JOB PRINTING, LITHOGRAPHIC		
United States	2,178.1	967.7
New England Division:		
Maine	3.1	1.9
New Hampshire	3.9	2.7
Vermont	2.6	1.4
Massachusetts	51.3	27.1
Rhode Island	5.0	6.0
Connecticut	28.5	16.4
Middle Atlantic Division:		
New York	229.0	134.7
New Jersey	82.9	36.1
Pennsylvania	131.7	85.8
East North Central Division:		
Ohio	138.5	83.2
Indiana	87.3	17.3
Illinois	219.8	94.6
Michigan	61.8	26.2
Wisconsin	66.9	22.1
West North Central Division:		
Minnesota	110.8	29.4
Iowa	31.1	12.2
Missouri	59.7	37.9
North Dakota	3.5	1.1
South Dakota	3.2	(NA)
Nebraska	13.2	5.2
Kansas	19.9	8.3
South Atlantic Division:		
Delaware	5.5	(NA)
Maryland	61.1	20.7
District of Columbia	16.2	6.3
Virginia	33.1	14.4
West Virginia	8.8	6.8
North Carolina	24.2	9.9
South Carolina	7.5	6.9
Georgia	57.0	27.6
Florida	42.3	14.7

Product class and geographic area	Value of receipts (million dollars)	
	1977	1972
27526, OTHER GENERAL JOB PRINTING, LITHOGRAPHIC--Con.		
East South Central Division:		
Kentucky	17.1	13.9
Tennessee	25.4	15.2
Alabama	94.7	5.2
Mississippi	4.5	2.0
West South Central Division:		
Arkansas	8.0	4.7
Louisiana	10.7	4.7
Oklahoma	12.9	5.6
Texas	79.7	35.5
Mountain Division:		
Montana	2.4	(NA)
Idaho	2.4	2.3
Colorado	17.8	7.3
New Mexico	5.7	1.9
Arizona	9.6	4.9
Utah	5.3	1.9
Nevada	2.6	(NA)
Pacific Division:		
Washington	21.7	6.9
Oregon	19.9	5.4
California	218.7	83.9
Hawaii	7.0	CC
27541, MAGAZINE AND PERIODICAL PRINTING, GRAVURE		
United States	275.5	(NA)
East North Central Division:		
Illinois	57.5	(NA)
Pacific Division:		
California	23.6	(NA)
27542, LABELS AND WRAPPERS PRINTING, GRAVURE		
United States	276.2	189.9
New England Division:		
Massachusetts	16.7	BB
Middle Atlantic Division:		
New York	10.3	4.6
East North Central Division:		
Ohio	44.1	FF
Illinois	22.4	EE
Wisconsin	18.7	13.8
South Atlantic Division:		
Virginia	16.7	FF
North Carolina	45.6	34.5
27543, CATALOG AND DIRECTORY PRINTING, GRAVURE		
United States	233.5	(NA)
Middle Atlantic Division:		
New York	3.1	(NA)
27545, ADVERTISING PRINTING, GRAVURE		
United States	143.2	100.9
East North Central Division:		
Illinois	12.5	11.1
27546, OTHER GENERAL JOB PRINTING, GRAVURE		
United States	71.7	46.8
New England Division:		
Massachusetts	12.7	(NA)
East North Central Division:		
Ohio	2.7	(NA)
Illinois	5.2	3.4
Pacific Division:		
California	3.9	BB

See footnotes at end of table.

Table 6b. **Product Classes — Value of Receipts by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of receipts (million dollars)	
	1977	1972
27547, GRAVURE PLATES AND CYLINDERS		
United States	58.0	33.7
Middle Atlantic Division:		
New Jersey	6.4	AA
East North Central Division:		
Ohio	5.0	3.6
Illinois	8.4	BB
27612, UNIT SET FORMS		
United States	885.3	514.2
New England Division:		
New Hampshire	6.8	BB
Massachusetts	17.1	7.1
Rhode Island	5.0	3.6
Connecticut	14.2	11.6
Middle Atlantic Division:		
New York	53.0	32.6
New Jersey	22.3	12.4
Pennsylvania	56.0	43.2
East North Central Division:		
Ohio	71.4	40.9
Indiana	19.5	7.6
Illinois	62.2	42.7
Michigan	22.3	14.4
Wisconsin	30.6	22.3
West North Central Division:		
Minnesota	11.9	4.3
Iowa	12.9	6.7
Missouri	22.1	10.6
Nebraska	5.0	5.4
Kansas	25.1	13.0
South Atlantic Division:		
Maryland	44.7	EE
Virginia	10.8	5.1
North Carolina	24.5	13.9
South Carolina	3.5	1.8
Georgia	23.6	4.8
Florida	15.0	9.9
East South Central Division:		
Kentucky	16.3	1.7
Tennessee	5.5	6.3
Alabama	5.9	8.8
West South Central Division:		
Arkansas	10.0	CC
Louisiana	7.3	BB
Oklahoma	8.5	6.0
Texas	60.5	33.5
Mountain Division:		
Colorado	4.3	BB
Arizona	5.9	2.1
Pacific Division:		
Washington	8.5	3.7
Oregon	28.3	18.6
California	90.2	51.7
27613, MANIFOLD BOOKS (INCLUDING SALES)		
United States	129.5	51.5
Middle Atlantic Division:		
New York	6.4	5.5
Pennsylvania	12.7	2.6
West South Central Division:		
Texas	4.8	BB
Pacific Division:		
California	22.9	CC
27615, CUSTOM CONTINUOUS FORMS		
United States	896.0	553.6
New England Division:		
Massachusetts	8.4	5.5
Connecticut	22.9	15.3
Middle Atlantic Division:		
New York	34.8	21.7
New Jersey	22.9	10.5
Pennsylvania	70.1	52.8
East North Central Division:		
Ohio	70.2	38.1
Indiana	33.6	21.7
Illinois	96.9	68.2
Michigan	16.6	12.6
Wisconsin	23.3	9.0
West North Central Division:		
Minnesota	7.8	4.6
Iowa	22.4	EE
Kansas	11.3	3.4
South Atlantic Division:		
Virginia	29.2	15.2
North Carolina	10.2	2.1
Georgia	17.1	3.3
Florida	9.4	6.2
West South Central Division:		
Louisiana	3.5	2.9
Texas	62.7	48.2
Mountain Division:		
Arizona	4.9	2.8
Pacific Division:		
Washington	5.7	BB
California	104.9	63.0
27617, STOCK CONTINUOUS FORMS		
Unites States	622.2	204.9
New England Division:		
Massachusetts	3.2	2.2
Connecticut	19.6	8.2
Middle Atlantic Division:		
New York	10.9	5.7
New Jersey	5.4	BB
Pennsylvania	118.6	FF
East North Central Division:		
Ohio	32.5	14.3
Illinois	41.5	10.0
Michigan	40.5	EE
Wisconsin	37.1	EE
West North Central Division:		
Missouri	6.9	AA
South Atlantic Division:		
Viriginia	22.3	5.3
North Carolina	5.1	(NA)
Georgia	7.8	(NA)
Florida	6.5	AA
West South Central Division:		
Texas	49.8	10.3
Pacific Division:		
California	91.2	32.7

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. r Revised.
[1] For 1977 and 1972, product class 27544 was included with product class 27546.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2751-	Commercial printing, letterpress	4,620.6	3,922.8	3,483.6	3,408.6	3,223.1	r3,380.9	2,834.6	2,406.6
27511	Magazine and periodical printing, letterpress	499.7	581.3	537.3	515.2	452.8	424.3	512.7	574.0
27512	Labels and wrappers printing, letterpress	746.9	643.4	533.9	497.1	540.7	501.9	390.2	296.9
27513	Catalog and directory printing, letterpress	197.7	228.8	211.4	203.6	133.6	134.3	171.3	148.7
27514	Financial and legal printing, letterpress	208.4	271.4	262.1	226.9	176.6	190.1	152.9	111.3
27515	Advertising printing, letterpress	299.8	670.7	532.2	466.6	303.7	268.7	345.7	276.4
27516	Other general job printing, letterpress	759.0	715.2	628.5	616.6	611.4	r481.6	527.7	717.0
27519	Screen process printing, except textiles	314.7	307.1	264.1	213.4	187.7	172.1	93.3	69.2
27510	Commercial printing, letterpress, n.s.k.	1,594.4	(505.0)	(514.2)	669.2	816.6	1,207.9	640.8	213.1
2752-	Commercial printing, lithographic	8,980.2	7,848.8	6,889.4	6,301.4	5,513.0	4,919.6	2,981.7	1,895.7
27521	Magazine and periodical printing, lithographic	1,287.5	1,313.2	1,131.5	941.5	750.6	631.6	296.1	138.6
27522	Labels and wrappers printing, lithographic	391.3	637.1	551.3	447.4	292.0	280.3	186.9	147.3
27523	Catalog and directory printing, lithographic	838.3	890.0	787.2	671.3	545.2	464.1	267.7	165.3
27524	Financial and legal printing, lithographic	471.6	446.9	407.2	353.5	293.3	271.1	137.7	108.9
27525	Advertising printing, lithographic	2,407.7	2,418.2	2,018.8	1,808.9	1,748.1	1,553.9	967.7	721.6
27526	Other general job printing, lithographic	2,178.1	1,719.4	1,568.0	1,291.1	1,183.6	967.7	705.6	517.7
27520	Commercial printing, lithographic, n.s.k.	1,405.7	(424.1)	(425.6)	(787.7)	(700.2)	750.9	420.1	96.3
27530	Engraving and plate printing, except photoengraving	288.7	353.3	319.9	303.8	230.1	r205.7	151.3	111.2
2754-	Commercial printing, gravure	1,146.5	1,109.0	973.4	959.8	805.2	759.1	(NA)	(NA)
27541	Magazine and periodical printing, gravure	275.5	(NA)	(NA)	(NA)	(NA)	(NA)		
27542	Labels and wrappers printing, gravure	276.2	345.6	299.6	270.1	209.5	189.9		
27543	Catalog and directory printing, gravure	233.5	(NA)	(NA)	(NA)	(NA)	(NA)		
27544	Financial and legal printing, gravure	(2)	(2)	(2)	(2)	(2)	(2)	430.4	304.8
27545	Advertising printing, gravure	143.2	89.7	109.4	123.2	123.2	100.9		
27546	Other general job printing, gravure	271.7	2(97.8)	285.1	274.8	248.6	246.8		
27547	Gravure plates and cylinders	58.0	(77.4)	(55.4)	(45.0)	(45.3)	33.7		
27540	Commercial printing, gravure, n.s.k.	88.4	16.8	(7.3)	8.5	7.9	32.1		
2761-	Manifold business forms	2,702.6	2,226.1	2,106.2	2,139.2	1,648.7	1,381.9	895.8	598.4
27612	Unit set forms	885.3	780.5	738.4	736.9	577.3	514.2	347.4	258.0
27613	Manifold books (including sales)	129.5	78.1	71.7	74.9	57.9	51.5	44.2	39.6
27615	Custom continuous forms	896.0	973.7	912.2	917.2	684.4	553.6	480.2	291.1
27617	Stock continuous forms	622.2	396.1	380.3	410.3	262.8	204.9		
27610	Manifold business forms, n.s.k.	169.7	(3)	(S)	(S)	66.3	57.7	24.0	9.8

(NA) Not available. n.s.k. Not specified by kind. rRevised. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Product class 27544 included with product class 27546.

[3]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 2751, COMMERCIAL PRINTING, LETTERPRESS					
	Materials, parts, and supplies		(X)	1,600.8	(X)	1,129.6
262112	Newsprint		(X)	113.8	(X)	92.1
	Coated paper:					
262136	Coated one side		(X)	65.7	(X)	112.3
262138	Coated two sides		(X)	88.6		
	Uncoated paper:					
262102	Groundwood, book, bond, writing, ledger, and manifold		(X)	112.9	(X)	153.8
262150	Bristol, cover, text, and other speciality paper		(X)	32.4		
263105	Paperboard, excluding that used for shipping		(X)	9.9	(X)	10.6
220011	Cloth and nonwoven fabrics for hardbound book covers		(X)	.6	(X)	(2)
289101	Glues and adhesives		(X)	7.6	(X)	(2)
	Printing inks:					
	Purchased and consumed:					
289311	Letterpress, including news	Million lb	(S)	29.3	64.5	34.7
289323	Lithographic		(S)	6.8	(S)	6.4
289305	Other, including gravure, flexographic, and screen process		(S)	25.6	(S)	15.1
	Produced and consumed:					
289301	Printing inks (complete formulations) produced and consumed in same establishment	Million lb	(S)	(X)	(S)	(X)
386153	Unexposed lithographic plates (presensitized)		(X)	2.8	(X)	4.4
330006	Metal for lithographic plates		(X)	.9		
279512	Exposed, prepared for printing, lithographic plates		(X)	3.6	(X)	(2)
386155	Light sensitive films		(X)	4.0	(X)	4.8
386166	Light sensitive papers		(X)	.9		
386181	Photographic developers and chemicals used in plate preparation		(X)	2.1	(X)	2.4
264140	Pressure sensitive base stock (self-adhesive), including all types (paper, film, foil, etc.)		(X)	89.1	(X)	48.7
349704	Foil and foil laminates		(X)	4.1	(X)	(2)
970099	All other materials and components, parts, containers, and supplies		(X)	253.4	(X)	[2]190.4
971000	Materials, parts, and supplies, n.s.k.[3]		(X)	746.7	(X)	453.9
	INDUSTRY 2752, COMMERCIAL PRINTING, LITHOGRAPHIC					
	Materials, parts, containers, and supplies		(X)	3,366.0	(X)	1,631.3
262112	Newsprint		(X)	190.0	(X)	92.6
	Coated paper:					
262136	Coated one side		(X)	182.0	(X)	92.8
262138	Coated two sides		(X)	577.5	(X)	263.7
	Uncoated paper:					
262102	Groundwood, book, bond, writing, ledger, and manifold		(X)	389.6	(X)	390.3
262150	Bristol, cover, text, and other speciality paper		(X)	122.1		
263105	Paperboard, excluding that used for shipping		(X)	36.2	(X)	23.5
220011	Cloth and nonwoven fabric for hardbound book covers		(X)	5.3	(X)	(4)
289101	Glues and adhesives		(X)	5.8	(X)	(4)
	Printing inks:					
	Purchased and consumed:					
289311	Letterpress, including news	Million lb	(S)	15.3	(S)	7.6
289323	Lithographic		(S)	140.1	(S)	77.3
289305	Other, including gravure, flexographic, and screen process		(S)	5.3	(S)	4.7
	Produced and consumed:					
289301	Printing inks (complete formulations) produced and consumed in same establishment	Million lb	(S)	(X)	(S)	(X)
386153	Unexposed lithographic plates (presensitized)		(X)	42.5	(X)	40.9
330006	Metal for lithographic plates		(X)	12.2		
279512	Exposed lithographic plates, prepared for printing		(X)	16.2	(X)	(4)
386155	Light sensitive films		(X)	34.7	(X)	28.6
386166	Light sensitive papers		(X)	3.8		
386181	Photographic developers and chemicals used in plate preparation		(X)	11.7	(X)	11.9
264140	Pressure sensitive base stock (self-adhesive), including paper, film, foil, etc		(X)	13.7	(X)	(4)
349704	Foil and foil laminates		(X)	7.2	(X)	(4)
970099	All other materials and components, parts, containers, and supplies		(X)	438.6	(X)	[4]243.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	1,116.2	(X)	353.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 2753, ENGRAVING AND PLATE PRINTING					
	Materials, parts, and supplies		(X)	71.8	(X)	41.1
262112	Newsprint		(X)	-		
	Coated paper:					
262136	Coated one side		(X)	.7	(X)	14.2
262138	Coated two sides					
	Uncoated paper:					
262102	Groundwood, book, bond, writing, ledger, and manifold		(X)	4.6		
262150	Bristol, cover, text, and other specialty paper		(X)	4.9		
263105	Paperboard, excluding that used for shipping		(X)	.2	(X)	.1
289101	Glues and adhesives		(X)	(Z)	(X)	(5)
	Printing inks:					
	Purchased and consumed:					
289311	Letterpress, including news	Million lb	(S)	.1	(S)	.7
289323	Lithographic		(S)	.2		
289305	Other, including gravure, flexographic, and screen process		(S)	.1		
	Produced and consumed:					
289301	Printing inks (complete formulations) produced and consumed in same establishment	Million lb	-	(X)	(S)	(X)
386155	Light sensitive films		(X)	.2	(X)	(5)
386166	Light sensitive papers		(X)	(Z)	(X)	(5)
386181	Photographic developers and chemicals used in plate preparation		(X)	.5	(X)	(5)
970099	All other materials and components, parts, containers, and supplies		(X)	22.8	(X)	5 14.3
971000	Materials, parts, and supplies, n.s.k.[3]		(X)	37.5	(X)	11.8
	INDUSTRY 2754, COMMERCIAL PRINTING, GRAVURE					
	Materials, parts, and supplies		(X)	487.9	(X)	303.6
262112	Newsprint		(X)	65.9	(X)	56.5
	Coated paper:					
262136	Coated, one side		(X)	49.6	(X)	15.3
262138	Coated, two sides		(X)	63.1	(X)	28.6
	Uncoated paper:					
262102	Groundwood, book, bond, writing, ledger, and manifold		(X)	6.0	(X)	38.0
262150	Bristol, cover, text, and other specialty paper		(X)	18.9		
263105	Paperboard, excluding that used for shipping		(X)	(6)	(X)	8.5
220011	Cloth and nonwoven fabrics for hardbound book covers		(X)	(6)	(X)	(7)
289101	Glues and adhesives		(X)	2.3	(X)	(7)
	Printing inks:					
	Purchased and consumed:					
289311	Letterpress, including news	Million lb	(S)	1.5	8.0	4.2
289323	Lithographic		(S)	.8	(S)	.7
289305	Other, including gravure, flexographic, and screen process		(S)	113.1	246.9	51.7
	Produced and consumed:					
289301	Printing inks (complete formulations) produced and consumed in same establishment	Million lb	(S)	(X)	(S)	(X)
386153	Unexposed lithographic plates (presensitized)		(X)	.2	(X)	.7
330006	Metal for lithographic plates					
279512	Exposed, prepared for printing, lithographic plates		(X)	(6)	(X)	(7)
386155	Light sensitive films		(X)	4.0	(X)	4.1
386166	Light sensitive papers		(X)	.9		
386181	Photographic developers and chemicals used in plate preparation		(X)	3.1	(X)	1.3
264140	Pressure sensitive base stock (self-adhesive), including all types, paper, film, foil, etc		(X)	.2	(X)	(7)
349704	Foil and foil laminates		(X)	33.6	(X)	23.5
970099	All other materials and components, parts, containers, and supplies consumed		(X)	6 75.1	(X)	7 68.0
971000	Materials, parts, and supplies, n.s.k.[3]		(X)	49.6	(X)	2.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 2761, MANIFOLD BUSINESS FORMS					
	Materials and supplies	.....	(X)	1,298.4	(X)	559.2
262111	Newsprint (all weights)	.....	(X)	6.7	(X)	2.5
	Coated papers:					
262136	Coated one side	.....	(X)	22.6	(X)	7.0
262138	Coated two sides	.....	(X)	10.2	(X)	12.3
	Uncoated papers:					
262102	Groundwood, book, bond, writing, ledger, and manifold	1,000 s. tons..	(S)	605.7	(X)	291.7
262150	Bristols, cover, text, and other specialty paper	1,000 s. tons..	(S)	22.0		
263105	Paperboard, excluding that used for shipping	.....	(X)	2.9	(X)	1.4
	Printing inks:					
289301	Purchased and consumed, complete formulations (all types)	Million lb.....	(S)	11.7	(S)	6.0
289301	Produced and consumed at the same establishment	Million lb.....	(S)	(X)	(S)	(X)
	Carbon paper:					
	Purchased and consumed:					
262164	Carbonizing tissue stock for conversion into one-time carbon paper	1,000 s. tons..	100.3	72.5	115.1	46.1
395523	One-time carbon paper		(S)	87.2	83.7	53.0
	Produced and consumed at the same establishment:					
395523	One-time carbon paper		(S)	(X)	(S)	(X)
262163	Carbonless paper	1,000 s. tons..	*110.3	101.3	50.1	34.8
970099	All other materials and components, parts, containers, and supplies, including metal type	.....	(X)	212.0	(X)	[8]71.0
971000	Materials and supplies, n.s.k.[3]	.....	(X)	143.6	(X)	33.4

- Represents zero. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.
(X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 220011, 289101, 279512, and 349704 were included with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1972, material codes 220011, 289101, 279512, 264140, and 349704 were included with material code 970099.

[5]For 1972, material codes 289101, 386155, 386166, and 386181 were included with material code 970099.

[6]For 1977, material codes 263105, 220011, and 279512 were included with material code 970099.

[7]For 1972, material codes 220011, 289101, 279512, and 264140 were included with material code 970099.

[8]For 1972, pressure sensitive base stock accounted for $1.9 million.

Greeting Cards; Bookbinding; Printing Trade Services

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DESCRIPTION OF INDUSTRIES

GREETING CARDS; BOOKBINDING; PRINTING TRADE SERVICES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
2771	Greeting Card Publishing
2782	Blankbooks and Looseleaf Binders
2789	Bookbinding and Related Work
2791	Typesetting
2793	Photoengraving
2794	Electrotyping and Stereotyping
2795	Lithographic Platemaking Services

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2771, GREETING CARD PUBLISHING

This industry comprises establishments primarily engaged in the designing, publishing, and printing, by any process, of greeting cards for all occasions.

The total value of shipments for establishments classified in the Greeting Card Publishing industry amounted to $1,072 million in 1977, an increase of 38 percent from 1972. The value of shipments of products classified as primary to the industry was $765 million, an increase of 31 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were other greeting cards (everyday), for which shipments increased 20 percent, and Christmas cards for which shipments increased 38 percent. Value added by manufacture, at $656 million in 1977, was 24 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 18.1 thousand employees, a decrease of 23 percent from 1972. The leading States in employment were Missouri, Ohio, Arkansas, and Massachusetts, accounting for approximately 55 percent of the industries 1977 employment. Data for Missouri, Ohio, and Arkansas have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 2782, BLANKBOOKS AND LOOSELEAF BINDERS

This industry comprises establishments primarily engaged in the manufacture of blankbooks, looseleaf devices, and library binders; and in ruling paper.

The total value of shipments for establishments classified in the Blankbooks and Looseleaf Binders industry amounted to $1,123 million in 1977, an increase of 90 percent from 1972. The value of shipments of products classified as primary to the industry was $1,040 million, an increase of 82 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were checkbooks, for which shipments increased 102 percent, and looseleaf binders, for which shipments increased 65 percent. Value added by manufacture, at $740 million in 1977, was 91 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 31.8 thousand employees, an increase of 14 percent from 1972. The leading States in employment were Illinois, New York, New Jersey, and Massachusetts, accounting for approximately 41 percent of the

industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 49 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 2789, BOOKBINDING AND RELATED WORK

This industry comprises establishments primarily engaged in edition, trade, job, and library bookbinding; in book or paper bronzing, gilding, and edging, in map and sample mounting; and other services related to bookbinding. Establishments primarily engaged in binding books printed elsewhere are classified in this industry, but those primarily binding books printed in the same establishment are classified in Industry group 273.

The total value of receipts for establishments classified in the Bookbinding and Related Work industry amounted to $534 million in 1977, an increase of 41 percent from 1972. The value of receipts of products classified as primary to the industry was $508 million, an increase of 38 percent from 1972. (See the Introduction for a discussion of the difference between value of receipts for the industry and value of product receipts.) The change reflected a general trend in the receipts of most of the products of the industry. Value added by manufacture, at $409 million in 1977, was 38 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 24.1 thousand employees, a decrease of 4 percent from 1972. The leading States in employment were New York, Illinois, New Jersey, and Pennsylvania, accounting for approximately 51 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of receipts.

INDUSTRY 2791, TYPESETTING

This industry comprises establishments primarily engaged in typesetting for the trade, including advertisement typesetting.

The total value of receipts for establishments classified in the Typesetting industry amounted to $731 million in 1977, an increase of 51 percent from 1972. The value of receipts of products classified as primary to the industry was $782 million, an increase of 54 percent from 1972. (See the Introduction for a discussion of the difference between value of receipts for the industry and value of product receipts.) The product accounting for a significant portion of this change was computer-controlled photographic typesetting, for which receipts increased 178 percent. Value added by manufacture, at $623 million in 1977, was 46 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 27.2 thousand employees, an increase of 5 percent from 1972. The leading States in employment were New York, Pennsylvania, Illinois, and California, accounting for approximately 48 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 19 percent of total value of receipts.

INDUSTRY 2793, PHOTOENGRAVING

This industry comprises establishments primarily engaged in preparing photoengraved plates (halftones and linecuts). These establishments do not, as a rule, print from the plates which they make, but prepare them for use by others.

The total value of receipts for establishments classified in the Photoengraving industry amounted to $218 million in 1977, a decrease of 5 percent from 1972. The value of receipts of products classified as primary to the industry was $224 million, an increase of 1 percent from 1972. The change reflected a general trend in the receipts of most of the products of the industry. (See the Introduction for a discussion of the difference between value of receipts for the industry and value of product receipts.) Value added by manufacture, at $168 million in 1977, was 12 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 5.7 thousand employees, a decrease of 42 percent from 1972. The leading States in employment were New York, California, Illinois, and New Jersey, accounting for approximately 60 percent of the industries 1977 employment. Data for New Jersey have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of receipts.

INDUSTRY 2794, ELECTROTYPING AND STEREOTYPING

This industry comprises establishments primarily engaged in preparing electrotype and stereotype plates. These establishments do not, as a rule, print from the plates which they make, but prepare them for use by others.

The total value of receipts for establishments classified in the Electrotyping and Stereotyping industry amounted to $14 million in 1977, a decrease of 63 percent from 1972. The value of receipts of products classified as primary to the industry was $16 million, a decrease of 56 percent from 1972. (See the Introduction for a discussion of the difference between value of receipts for the industry and value of product receipts.) The change reflected a general trend in the receipts of most of the products of the industry. Value added by manufacture, at $10 million in 1977, was 65 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had .4 thousand employees, a decrease of 76 percent from 1972.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of receipts.

INDUSTRY 2795, LITHOGRAPHIC PLATEMAKING SERVICES

This industry comprises establishments primarily engaged in making plates and positives or negatives from which lithographic plates are made, and in related services. Establishments primarily engaged in printing by the lithographic process are classified in industry 2752.

The total value of receipts for establishments classified in the Lithographic Platemaking Services industry amounted to $667 million in 1977, an increase of 160 percent from 1972. The value of receipts of products classified as primary to the industry was $631 million, an increase of 140 percent from 1972. (See the Introduction for a discussion of the difference between value of receipts for the industry and value of product receipts.) The products accounting for a significant portion of this change were lithographic platemaking services, for which receipts increased 206 percent, and lithographic plates, for which receipts increased 63 percent. Value added by manufacture, at $467 million in 1977, was 152 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.2 thousand employees, an increase of 71 percent from 1972. The leading States in employment were Illinois, New York, New Jersey, and California, accounting for approximately 50 percent of the industry's 1977 employment. Data for Illinois and New York have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of receipts.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2771, GREETING CARD PUBLISHING																
1977 Census--	55	166	52	18.1	226.8	10.6	21.7	105.8	655.9	364.9	1 072.1	18.8	(NA)	160.6	78	95
1976 ASM[6] ---	(NA)	(NA)	(NA)	18.3	213.7	9.9	19.5	98.2	606.5	304.9	906.7	15.9	205.0	208.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	19.2	194.8	9.9	19.0	93.1	559.1	302.0	860.8	15.9	223.7	210.0	(NA)	(NA)
1974 ASM[6] ---	(NA)	(NA)	(NA)	21.8	193.3	10.9	20.8	93.4	644.5	286.5	923.6	13.1	270.5	212.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	24.5	198.2	11.8	23.7	95.8	530.6	296.9	816.5	33.6	306.5	208.0	(NA)	(NA)
1972 Census--	186	199	82	23.5	191.5	12.4	24.1	93.9	527.0	261.4	774.4	46.4	281.7	190.7	76	97
1971 ASM----	(NA)	(NA)	(NA)	23.3	172.8	13.2	25.2	84.1	473.7	268.3	738.7	14.5	192.5	200.4	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	24.7	163.6	14.2	26.9	82.5	458.1	215.6	663.7	12.2	183.8	194.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	28.1	160.2	15.4	28.4	75.9	430.2	196.0	629.9	24.1	166.4	188.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	26.8	154.4	14.6	26.9	72.0	396.2	183.5	564.9	21.0	148.1	171.1	(NA)	(NA)
1967 Census--	203	222	92	27.6	150.6	16.4	31.3	75.0	372.3	171.9	517.9	14.9	131.2	147.8	87	93
1966 ASM[6] ---	(NA)	(NA)	(NA)	27.2	154.9	15.5	32.3	69.9	296.5	177.0	460.1	25.7	(NA)	112.8	(NA)	(NA)
1965 ASM[6] ---	(NA)	(NA)	(NA)	24.7	132.2	14.3	28.7	59.9	255.2	159.7	407.4	11.4	(NA)	92.7	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	22.6	115.1	13.5	26.5	57.2	247.2	141.5	385.7	13.6	96.1	83.1	(NA)	(NA)
1963 Census--	239	257	93	21.5	105.6	13.4	26.2	53.9	204.6	138.3	346.0	6.8	83.7	75.2	92	96
INDUSTRY 2782, BLANKBOOKS AND LOOSELEAF BINDERS																
1977 Census--	373	505	288	31.8	338.5	25.2	49.8	235.0	739.9	396.9	1 122.6	36.0	(NA)	130.2	86	91
1976 ASM----	(NA)	(NA)	(NA)	26.3	253.5	21.3	40.5	178.2	565.9	308.0	875.8	21.0	222.8	104.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	25.7	229.7	20.6	38.9	158.3	513.4	270.4	789.3	21.9	213.5	96.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	27.4	223.4	22.4	44.7	158.7	474.5	261.9	728.8	18.6	187.4	107.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	28.0	215.2	23.0	45.9	155.6	430.9	243.3	667.0	15.8	179.0	97.0	(NA)	(NA)
1972 Census--	376	461	240	26.6	192.7	22.0	43.2	139.8	390.6	206.3	591.1	14.4	175.2	79.6	89	90
1971 ASM----	(NA)	(NA)	(NA)	24.1	168.8	19.9	39.6	117.9	328.8	172.7	502.3	18.0	142.0	68.6	(NA)	(NA)
1970 ASM[6] ---	(NA)	(NA)	(NA)	24.0	153.9	19.9	40.7	110.2	292.4	165.3	456.6	15.4	129.5	66.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	24.6	148.3	20.6	41.1	109.6	286.9	169.9	450.4	11.7	118.2	67.7	(NA)	(NA)
1968 ASM[6] ---	(NA)	(NA)	(NA)	23.4	135.4	19.3	38.6	97.5	259.9	153.0	410.6	11.2	112.8	60.2	(NA)	(NA)
1967 Census--	402	444	193	23.2	130.3	19.4	38.4	94.5	245.4	138.0	381.3	11.6	103.5	52.7	86	88
1966 ASM----	(NA)	(NA)	(NA)	21.4	116.2	17.7	34.8	83.3	220.4	127.3	344.2	9.6	(NA)	49.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	19.7	104.1	16.1	31.9	74.4	190.2	113.7	302.7	7.3	(NA)	44.2	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	19.5	101.6	15.4	32.2	69.5	178.9	116.0	297.2	7.5	73.8	42.7	(NA)	(NA)
1963 Census--	380	410	158	17.9	91.2	14.4	28.7	64.4	168.5	101.4	268.2	6.1	68.0	39.9	88	88
INDUSTRY 2789, BOOKBINDING AND RELATED WORK																
1977 Census--	974	987	288	24.1	240.6	20.9	38.8	183.6	408.8	126.0	533.6	19.3	(NA)	45.7	96	94
1976 ASM[6] ---	(NA)	(NA)	(NA)	20.3	192.7	17.7	34.2	147.7	354.4	109.8	467.0	15.3	160.3	37.1	(NA)	(NA)
1975 ASM[6] ---	(NA)	(NA)	(NA)	21.1	186.9	18.3	34.1	144.5	342.6	100.0	446.3	10.8	154.6	32.5	(NA)	(NA)
1974 ASM[6] ---	(NA)	(NA)	(NA)	23.4	188.2	20.4	38.0	146.7	350.3	94.5	448.3	12.0	(S)	32.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	24.9	187.6	21.6	40.3	146.1	313.8	86.4	401.0	5.8	(S)	28.1	(NA)	(NA)
1972 Census--	990	1 004	301	25.1	178.9	22.0	40.5	139.1	296.2	78.3	377.2	11.2	(S)	25.1	95	89
1971 ASM----	(NA)	(NA)	(NA)	25.3	168.1	22.2	42.1	130.7	275.4	68.6	346.1	13.7	148.2	20.2	(NA)	(NA)
1970 ASM[6] ---	(NA)	(NA)	(NA)	28.4	172.9	25.3	48.2	136.9	278.2	76.3	359.2	12.1	148.9	23.0	(NA)	(NA)
1969 ASM[6] ---	(NA)	(NA)	(NA)	31.5	178.9	28.6	50.1	144.8	290.0	74.2	361.4	9.7	106.8	28.2	(NA)	(NA)
1968 ASM[6] ---	(NA)	(NA)	(NA)	30.0	165.5	27.2	47.9	132.2	268.5	77.1	342.8	12.6	104.6	26.2	(NA)	(NA)
1967 Census--	1 008	1 018	334	30.3	163.9	27.2	50.3	131.0	260.6	80.2	340.6	13.5	97.4	21.0	94	89
1966 ASM----	(NA)	(NA)	(NA)	32.6	161.6	28.7	52.8	127.0	253.0	100.8	349.1	11.0	(NA)	28.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	29.3	142.5	25.5	47.7	112.0	220.7	80.3	299.3	7.0	(NA)	21.4	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	24.1	118.7	21.7	40.0	94.3	177.8	62.7	238.3	5.1	82.1	16.6	(NA)	(NA)
1963 Census--	1 038	1 043	311	24.3	115.0	21.7	40.8	92.9	172.3	57.5	228.5	8.0	75.8	14.7	95	83
INDUSTRY 2791, TYPESETTING																
1977 Census--	2 370	2 406	389	27.2	364.7	21.7	38.8	271.6	623.4	110.5	730.6	36.7	(NA)	42.5	97	89
1976 ASM[6] ---	(NA)	(NA)	(NA)	23.6	269.5	19.0	34.3	202.9	450.1	74.6	524.9	27.8	180.5	26.7	(NA)	(NA)
1975 ASM[6] ---	(NA)	(NA)	(NA)	24.6	261.7	19.7	36.0	197.3	419.7	64.6	482.3	20.8	177.5	30.3	(NA)	(NA)
1974 ASM[6] ---	(NA)	(NA)	(NA)	25.5	281.6	20.8	40.0	214.7	453.1	53.2	503.0	19.9	183.6	28.4	(NA)	(NA)
1973 ASM[6] ---	(NA)	(NA)	(NA)	24.7	269.2	20.0	36.8	205.7	428.8	59.6	490.5	13.1	151.0	24.6	(NA)	(NA)
1972 Census--	1 858	1 887	373	26.0	269.8	21.1	38.1	205.9	426.0	58.1	482.8	14.2	149.7	25.3	97	91
1971 ASM----	(NA)	(NA)	(NA)	28.7	281.2	23.0	42.3	214.0	399.6	57.1	458.5	9.5	177.4	25.0	(NA)	(NA)
1970 ASM[6] ---	(NA)	(NA)	(NA)	29.6	275.8	23.8	44.1	212.9	405.7	58.5	462.9	9.6	177.4	24.3	(NA)	(NA)
1969 ASM[6] ---	(NA)	(NA)	(NA)	27.3	240.3	22.7	45.1	191.8	363.1	56.6	417.2	11.6	161.7	23.7	(NA)	(NA)
1968 ASM[6] ---	(NA)	(NA)	(NA)	25.3	218.7	20.8	40.9	172.9	317.5	50.3	365.1	9.2	152.9	19.1	(NA)	(NA)
1967 Census--	1 518	1 535	365	25.5	208.3	20.9	40.2	164.1	304.3	52.7	356.7	13.2	147.4	14.3	95	92
1966 ASM----	(NA)	(NA)	(NA)	23.8	188.6	19.1	37.3	141.1	267.3	42.3	309.6	14.5	(NA)	12.9	(NA)	(NA)
1965 ASM[6] ---	(NA)	(NA)	(NA)	22.1	167.9	17.4	34.1	128.7	231.9	39.9	272.2	7.3	(NA)	12.5	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	23.0	162.9	18.6	34.8	132.1	227.3	37.8	261.7	5.6	102.6	13.5	(NA)	(NA)
1963 Census--	1 271	1 289	282	21.0	147.3	16.9	33.5	118.7	205.5	36.3	241.0	6.7	95.8	10.7	95	90

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2793, PHOTOENGRAVING																
1977 Census--	440	449	56	5.7	89.3	3.8	6.8	58.4	168.2	50.4	218.0	7.5	(NA)	13.2	83	79
1976 ASM[5] ---	(NA)	(NA)	(NA)	8.6	146.9	6.7	11.5	104.6	232.8	65.0	296.5	8.3	80.5	10.0	(NA)	(NA)
1975 ASM[5] ---	(NA)	(NA)	(NA)	8.1	128.6	6.2	11.0	94.1	201.0	48.6	249.4	6.6	82.7	8.7	(NA)	(NA)
1974 ASM[5] ---	(NA)	(NA)	(NA)	8.1	118.3	6.1	11.0	86.2	174.1	40.5	214.3	9.7	(S)	7.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.6	119.9	6.7	11.7	82.1	193.1	38.1	231.1	1.8	(S)	8.2	(NA)	(NA)
1972 Census--	581	590	135	9.9	119.3	6.6	12.5	81.0	191.7	38.9	229.7	5.4	(S)	8.0	83	84
1971 ASM[5] ---	(NA)	(NA)	(NA)	8.3	102.7	5.8	11.1	68.8	151.4	32.5	184.4	3.3	58.1	8.5	(NA)	(NA)
1970 ASM[6] ---	(NA)	(NA)	(NA)	10.7	113.8	7.5	14.6	80.0	163.8	37.5	201.0	4.7	60.1	11.2	(NA)	(NA)
1969 ASM[6] ---	(NA)	(NA)	(NA)	13.8	150.4	9.8	18.6	105.0	222.3	51.9	274.6	3.8	81.1	9.1	(NA)	(NA)
1968 ASM[6] ---	(NA)	(NA)	(NA)	13.3	130.9	9.6	17.7	93.2	200.7	45.5	246.7	4.1	76.4	8.8	(NA)	(NA)
1967 Census--	732	735	193	13.2	126.2	9.4	17.5	89.8	191.7	43.7	234.3	6.3	76.4	8.5	94	91
1966 ASM[6] ---	(NA)	(NA)	(NA)	13.8	120.2	9.7	19.3	87.0	180.8	44.0	225.0	5.4	(NA)	4.5	(NA)	(NA)
1965 ASM[6] ---	(NA)	(NA)	(NA)	13.9	118.1	9.9	19.5	84.9	172.0	44.8	217.1	2.6	(NA)	4.8	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	13.8	119.3	9.8	19.4	85.4	171.7	42.1	213.4	1.3	35.6	5.4	(NA)	(NA)
1963 Census--	872	883	218	14.6	119.7	10.3	19.6	86.6	171.8	41.0	212.4	5.7	26.8	6.1	95	91
INDUSTRY 2794, ELECTROTYPING AND STEREOTYPING																
1977 Census--	40	40	5	0.4	6.8	0.3	0.5	4.6	10.0	3.8	13.8	0.1	(NA)	0.5	79	66
1976 ASM[5] ---	(NA)	(NA)	(NA)	1.3	17.9	0.9	1.7	11.9	24.0	7.4	31.4	1.4	9.5	1.1	(NA)	(NA)
1975 ASM[5] ---	(NA)	(NA)	(NA)	1.3	17.3	0.9	1.7	11.6	23.1	6.9	30.0	0.2	10.6	1.2	(NA)	(NA)
1974 ASM[5] ---	(NA)	(NA)	(NA)	1.3	17.4	0.9	1.7	11.7	23.5	7.2	30.7	0.6	10.9	1.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	1.5	18.7	1.0	2.0	13.1	29.0	8.0	37.0	0.3	13.1	1.4	(NA)	(NA)
1972 Census--	72	81	24	1.7	19.0	1.2	2.1	13.5	28.5	8.3	36.8	0.5	13.5	1.4	81	77
1971 ASM----	(NA)	(NA)	(NA)	2.0	20.0	1.3	2.8	13.6	32.4	9.1	41.5	0.6	17.4	1.4	(NA)	(NA)
1970 ASM[6] ---	(NA)	(NA)	(NA)	2.5	21.9	1.8	3.8	14.7	38.1	11.2	49.3	0.7	18.1	1.7	(NA)	(NA)
1969 ASM[6] ---	(NA)	(NA)	(NA)	3.3	31.2	2.4	4.9	23.3	53.6	15.1	68.8	1.2	19.0	2.2	(NA)	(NA)
1968 ASM[6] ---	(NA)	(NA)	(NA)	3.5	32.1	2.5	5.0	22.9	53.3	14.9	68.3	1.5	20.9	1.8	(NA)	(NA)
1967 Census--	124	133	57	3.6	31.3	2.6	5.0	22.5	47.7	14.3	62.1	0.7	20.5	2.2	89	85
1966 ASM[6] ---	(NA)	(NA)	(NA)	5.1	40.5	3.5	6.8	25.2	59.6	21.2	81.2	0.8	(NA)	3.6	(NA)	(NA)
1965 ASM[6] ---	(NA)	(NA)	(NA)	5.1	41.3	3.7	7.2	26.0	57.9	20.8	79.0	0.7	(NA)	3.6	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	4.6	36.9	3.1	6.8	26.3	54.0	20.4	74.0	0.9	26.5	4.5	(NA)	(NA)
1963 Census--	170	184	80	5.1	39.3	3.8	7.3	28.5	57.2	19.0	76.1	1.0	26.8	3.2	87	86
INDUSTRY 2795, LITHOGRAPHIC PLATEMAKING SERVICES[3]																
1977 Census--	677	697	217	15.2	273.9	10.6	20.4	181.5	466.8	198.9	667.0	27.4	(NA)	54.5	87	89
1976 ASM[6] ---	(NA)	(NA)	(NA)	9.6	173.3	6.4	12.0	114.4	308.7	128.8	430.5	32.7	146.2	43.3	(NA)	(NA)
1975 ASM[6] ---	(NA)	(NA)	(NA)	9.3	152.1	6.5	12.2	101.2	257.1	100.8	356.7	9.4	124.8	32.4	(NA)	(NA)
1974 ASM[6] ---	(NA)	(NA)	(NA)	10.1	154.6	7.0	13.3	101.8	264.3	99.5	362.3	13.7	107.8	33.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.3	122.1	6.4	13.0	84.9	209.8	81.5	288.6	11.8	78.3	23.3	(NA)	(NA)
1972 Census--	329	336	124	8.9	112.4	6.2	11.8	76.8	185.1	73.2	257.0	10.5	71.7	19.7	87	83

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2771, GREETING CARD PUBLISHING											
1977 Census--	12 540	(NA)	58	2 047	4.88	34	55	(NA)	36 264	34	30.26
1976 ASM----	11 677	11 202	54	1 969	5.03	33	57	22	33 142	35	31.10
1975 ASM----	10 145	11 651	51	1 919	4.90	35	57	25	29 119	34	29.42
1974 ASM----	8 866	12 408	50	1 908	4.49	31	51	29	29 564	29	30.98
1973 ASM----	8 089	12 510	48	2 008	4.04	36	60	37	21 657	37	22.38
1972 Census--	8 148	11 987	52	1 943	3.89	33	58	36	22 425	36	21.86
1971 ASM----	7 416	8 261	56	1 909	3.33	36	59	26	20 330	36	18.79
1970 ASM----	6 623	7 441	57	1 894	3.06	32	57	27	18 546	35	17.02
1969 ASM----	5 701	5 921	54	1 844	2.67	31	56	26	15 309	37	15.14
1968 ASM----	5 761	5 526	54	1 842	2.67	32	59	26	14 783	38	14.72
1967 Census--	5 456	4 753	59	1 908	2.39	33	62	25	13 489	40	11.89
1966 ASM----	5 694	(NA)	56	2 083	2.16	38	72	(NA)	10 900	52	9.17
1965 ASM----	5 352	(NA)	57	2 006	2.08	39	71	(NA)	10 331	51	8.89
1964 ASM----	5 092	4 252	59	1 962	2.15	36	66	24	10 938	46	9.32
1963 Census--	4 911	3 893	62	1 955	2.05	39	70	24	9 516	51	7.80
INDUSTRY 2782, BLANKBOOKS AND LOOSELEAF BINDERS											
1977 Census--	10 633	(NA)	79	1 977	4.71	35	65	(NA)	23 241	45	14.84
1976 ASM----	9 638	8 471	80	1 901	4.40	35	64	25	21 517	44	13.97
1975 ASM----	8 937	8 307	80	1 888	4.06	34	63	27	19 976	44	13.19
1974 ASM----	8 153	6 839	81	1 995	3.55	35	66	25	17 317	47	10.61
1973 ASM----	7 685	6 392	82	1 995	3.38	36	68	26	15 389	49	9.38
1972 Census--	7 244	6 586	82	1 963	3.23	34	67	29	14 684	49	9.04
1971 ASM----	7 004	5 892	82	1 989	2.97	34	67	28	13 643	51	8.30
1970 ASM----	6 412	5 395	82	2 045	2.70	36	69	28	12 183	52	7.18
1969 ASM----	6 028	4 804	83	1 995	2.66	37	70	26	11 662	51	6.98
1968 ASM----	5 786	4 820	82	2 000	2.52	37	70	27	11 106	52	6.73
1967 Census--	5 616	4 461	83	1 979	2.46	36	70	27	10 577	53	6.39
1966 ASM----	5 429	(NA)	82	1 966	2.39	36	70	(NA)	10 299	52	6.33
1965 ASM----	5 284	(NA)	81	1 981	2.33	37	71	(NA)	9 654	54	5.96
1964 ASM----	5 210	3 784	78	2 090	2.15	39	73	24	9 174	56	5.55
1963 Census--	5 094	3 798	80	1 993	2.24	37	71	25	9 413	54	5.87
INDUSTRY 2789, BOOKBINDING AND RELATED WORK											
1977 Census--	9 978	(NA)	86	1 853	4.73	23	68	(NA)	16 959	58	10.54
1976 ASM----	9 492	7 896	87	1 932	4.31	23	64	34	17 458	54	10.36
1975 ASM----	8 857	7 327	86	1 863	4.23	22	64	34	16 236	54	10.04
1974 ASM----	8 042	(S)	87	1 862	3.86	21	63	(S)	14 970	53	9.21
1973 ASM----	7 534	(S)	86	1 865	3.62	21	68	(S)	12 602	59	7.78
1972 Census--	7 127	(S)	87	1 840	3.43	20	68	(S)	11 800	60	7.31
1971 ASM----	6 644	5 857	87	1 896	3.10	19	68	42	10 885	61	6.54
1970 ASM----	6 088	5 242	89	1 905	2.84	21	69	41	9 795	62	5.77
1969 ASM----	5 679	3 390	90	1 751	2.89	20	70	29	9 206	61	5.78
1968 ASM----	5 516	3 486	90	1 761	2.75	22	70	30	8 950	61	5.60
1967 Census--	5 409	3 214	89	1 849	2.60	23	71	28	8 600	62	5.18
1966 ASM----	4 957	(NA)	88	1 839	2.40	28	75	(NA)	7 760	63	4.79
1965 ASM----	4 863	(NA)	87	1 870	2.34	26	74	(NA)	7 532	64	4.62
1964 ASM----	4 925	3 406	90	1 843	2.35	26	76	34	7 377	66	4.44
1963 Census--	4 732	3 119	89	1 880	2.27	25	75	33	7 090	66	4.22
INDUSTRY 2791, TYPESETTING											
1977 Census--	13 422	(NA)	79	1 786	7.00	15	65	(NA)	22 944	58	16.07
1976 ASM----	11 419	7 648	80	1 805	5.91	14	65	34	19 072	59	13.12
1975 ASM----	10 638	7 215	80	1 827	5.48	13	67	36	17 060	62	11.65
1974 ASM----	11 043	7 200	81	1 923	5.36	10	66	36	17 768	62	11.32
1973 ASM----	10 898	6 113	80	1 840	5.58	12	67	30	17 360	62	11.65
1972 Census--	10 376	5 757	81	1 805	5.40	12	67	31	16 384	63	11.18
1971 ASM----	9 797	6 181	80	1 839	5.05	12	73	38	13 923	70	9.44
1970 ASM----	9 317	5 993	80	1 852	4.82	12	72	38	13 706	67	9.19
1969 ASM----	8 802	5 923	83	1 986	4.25	13	71	38	13 300	66	8.05
1968 ASM----	8 644	6 043	82	1 966	4.22	13	73	41	12 549	68	7.76
1967 Census--	8 168	5 780	81	1 923	4.08	14	73	41	11 933	68	7.56
1966 ASM----	7 924	(NA)	80	1 952	3.78	13	74	(NA)	11 231	70	7.16
1965 ASM----	7 597	(NA)	78	1 959	3.77	14	76	(NA)	10 493	72	6.80
1964 ASM----	7 082	4 460	80	1 870	3.79	14	76	39	9 882	71	6.53
1963 Census--	7 014	4 561	80	1 982	3.54	15	76	39	9 785	71	6.13

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2793, PHOTOENGRAVING										
1977 Census--	15 800	(NA)	67	1 769	8.61	23	64	(NA)	29 776	53	24.83
1976 ASM----	17 081	9 360	77	1 716	9.09	21	71	27	27 069	63	20.24
1975 ASM----	15 876	10 209	76	1 774	8.55	19	71	33	24 814	63	18.27
1974 ASM----	14 604	(S)	75	1 803	7.83	18	74	(S)	21 493	67	15.82
1973 ASM----	12 489	(S)	69	1 746	7.01	16	68	(S)	20 114	62	16.50
1972 Census--	12 050	(S)	66	1 893	6.48	16	68	(S)	19 363	62	15.33
1971 ASM----	12 373	7 000	69	1 913	6.19	17	73	31	18 240	67	13.63
1970 ASM----	10 635	5 616	70	1 946	5.47	18	75	29	15 308	69	11.21
1969 ASM----	10 898	5 876	71	1 897	5.64	18	73	29	16 108	67	11.95
1968 ASM----	9 842	5 744	72	1 843	5.26	18	71	30	15 090	65	11.33
1967 Census--	9 560	5 787	71	1 861	5.13	18	72	32	14 522	65	10.95
1966 ASM----	8 710	(NA)	70	1 989	4.50	19	72	(NA)	13 101	66	9.36
1965 ASM----	8 496	(NA)	71	1 969	4.35	20	75	(NA)	12 374	68	8.82
1964 ASM----	8 644	2 579	71	1 979	4.40	19	75	16	12 442	69	8.85
1963 Census--	8 198	1 835	70	1 902	4.41	19	75	12	11 767	69	8.76
	INDUSTRY 2794, ELECTROTYPING AND STEREOTYPING										
1977 Census--	16 114	(NA)	69	1 767	8.78	27	76	(NA)	23 828	67	19.32
1976 ASM----	13 769	7 307	69	1 888	7.00	23	80	30	18 461	74	14.11
1975 ASM----	13 307	8 153	69	1 888	6.82	23	80	35	17 769	74	13.58
1974 ASM----	13 384	8 384	69	1 888	6.88	23	80	35	18 076	74	13.82
1973 ASM----	12 466	8 733	66	2 000	6.55	21	72	35	19 333	64	14.50
1972 Census--	11 176	7 941	70	1 750	6.42	22	74	36	16 764	66	13.57
1971 ASM----	10 000	8 700	65	2 153	4.85	21	70	41	16 200	61	11.57
1970 ASM----	8 760	7 240	72	2 111	3.86	22	67	36	15 240	57	10.02
1969 ASM----	9 454	5 757	72	2 041	4.75	21	67	27	16 242	58	10.93
1968 ASM----	9 171	5 971	71	2 000	4.58	21	68	30	15 228	60	10.66
1967 Census--	8 694	5 694	72	1 923	4.50	23	73	33	13 250	65	9.54
1966 ASM----	7 941	(NA)	68	1 942	3.70	26	75	(NA)	11 686	67	8.76
1965 ASM----	8 098	(NA)	72	1 945	3.61	26	78	(NA)	11 352	71	8.04
1964 ASM----	8 021	5 760	67	2 193	3.86	27	77	35	11 739	68	7.94
1963 Census--	7 705	5 254	74	1 921	3.90	24	76	35	11 215	68	7.83
	INDUSTRY 2795, LITHOGRAPHIC PLATEMAKING SERVICES										
1977 Census--	18 023	(NA)	69	1 923	8.90	29	70	(NA)	30 717	58	22.88
1976 ASM----	18 052	15 229	66	1 875	9.53	29	70	33	32 156	56	25.72
1975 ASM----	16 354	13 419	69	1 876	8.29	28	70	34	27 645	59	21.07
1974 ASM----	15 306	10 673	69	1 900	7.65	27	70	29	26 168	58	19.87
1973 ASM----	13 129	8 419	68	2 031	6.53	28	70	27	22 559	58	16.13
1972 Census--	12 629	8 056	69	1 903	6.50	28	72	27	20 797	60	15.68

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 2771, GREETING CARD PUBLISHING														
United States	–	**166**	**52**	**18.1**	**226.8**	**10.6**	**21.7**	**105.8**	**655.9**	**364.9**	**1 072.1**	**18.8**	**23.5**	**527.0**
New England Division:														
New Hampshire	–	5	3	0.5	4.4	0.4	0.6	2.5	8.0	10.4	18.5	(D)	BB	(D)
Massachusetts	–	12	6	1.6	18.7	0.9	1.6	8.0	32.5	22.2	54.0	0.4	2.2	37.5
Rhode Island	–	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Middle Atlantic Division:														
New York	E1	40	10	1.0	10.1	0.5	1.0	3.6	23.6	16.3	39.2	0.6	2.1	42.3
Pennsylvania	–	7	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	–	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Indiana	–	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Illinois	–	14	4	0.8	7.6	0.6	1.2	5.1	21.0	17.2	37.7	0.2	EE	(D)
West North Central Division:														
Missouri	–	8	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Kansas	–	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East South Central Division:														
Kentucky	–	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	–	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mountain Division:														
Colorado	–	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California	E3	26	4	0.3	4.2	0.2	0.5	2.6	9.4	5.2	14.5	0.2	EE	(D)
INDUSTRY 2782, BLANKBOOKS AND LOOSELEAF BINDERS														
United States	–	**505**	**288**	**31.8**	**338.5**	**25.2**	**49.8**	**235.0**	**739.9**	**396.9**	**1 122.6**	**36.0**	**26.6**	**390.6**
New England Division:														
Massachusetts	–	22	15	2.9	28.5	2.3	4.3	21.4	61.8	41.7	101.4	4.2	2.5	37.7
Rhode Island	–	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Connecticut	–	9	4	0.9	9.4	0.7	1.3	5.2	21.4	12.7	34.7	0.9	CC	(D)
Middle Atlantic Division:														
New York	E1	91	45	3.1	29.1	2.6	5.0	20.0	55.9	42.3	98.0	2.7	4.6	68.6
New Jersey	–	28	19	3.1	34.1	2.2	4.6	22.6	95.1	44.1	133.8	2.6	2.6	33.3
Pennsylvania	–	22	15	1.6	17.6	1.2	2.4	12.4	40.3	17.6	57.6	1.7	1.1	15.4
East North Central Division:														
Ohio	–	17	9	0.8	9.4	0.6	1.2	6.7	19.0	6.9	25.9	1.1	0.6	9.8
Indiana	–	8	4	0.5	4.8	0.4	0.8	3.5	10.9	4.4	15.2	(D)	0.5	7.4
Illinois	–	46	23	3.9	42.5	3.1	6.0	28.4	93.3	52.7	141.7	3.7	3.3	46.0
Michigan	–	15	7	1.0	10.2	0.8	1.7	7.6	24.7	13.5	38.4	1.1	0.8	12.9
Wisconsin	–	9	6	0.7	8.0	0.4	0.9	4.7	12.3	6.7	19.0	0.5	0.7	8.9
West North Central Division:														
Minnesota	–	14	6	0.7	7.7	0.6	1.1	5.5	18.6	6.6	25.1	0.7	CC	(D)
Iowa	–	5	3	0.2	2.4	0.2	0.3	1.6	6.3	1.6	7.8	(D)	(NA)	(NA)
Missouri	–	11	7	1.2	13.1	0.9	1.9	8.8	26.0	12.6	38.6	0.8	CC	(D)
Kansas	–	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Maryland	–	6	4	0.4	3.9	0.3	0.5	2.4	7.3	4.0	11.1	(D)	BB	(D)
Virginia	–	8	7	0.5	5.7	0.5	0.9	4.3	13.3	6.1	19.3	0.9	0.4	6.0
North Carolina	E1	9	5	0.4	4.0	0.3	0.7	2.8	10.3	2.9	13.2	0.4	0.3	2.4
South Carolina	–	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	–	9	5	0.4	4.3	0.4	0.7	3.0	10.1	4.7	14.8	0.1	0.4	4.7
Florida	–	20	12	0.8	8.2	0.7	1.7	5.8	18.8	6.1	24.9	0.7	0.4	4.8
East South Central Division:														
Tennessee	–	13	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	–	10	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Mississippi	–	6	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	–	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Louisiana	–	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	–	6	3	0.2	2.3	0.2	0.4	1.8	5.7	2.0	7.6	0.2	(NA)	(NA)
Texas	–	22	17	1.4	15.0	1.2	2.3	10.7	30.5	13.6	43.9	1.2	CC	(D)
Mountain Division:														
Colorado	–	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Arizona	–	8	5	0.5	4.0	0.4	0.7	3.0	8.6	6.9	15.4	(D)	BB	(D)
Utah	–	6	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Oregon	–	3	3	0.2	2.6	0.2	0.4	2.1	5.0	2.1	7.0	(D)	(NA)	(NA)
California	–	43	23	2.4	27.2	1.9	3.7	18.9	57.6	35.9	92.6	1.9	FF	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 2789, BOOKBINDING AND RELATED WORK														
United States	**E1**	**987**	**288**	**24.1**	**240.6**	**20.9**	**38.8**	**183.6**	**408.8**	**126.0**	**533.8**	**19.3**	**25.1**	**296.2**
New England Division:														
New Hampshire	E3	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	E1	38	17	0.8	8.0	0.7	1.2	6.0	13.1	3.4	16.5	0.5	1.1	11.3
Connecticut	E1	12	6	0.3	2.9	0.2	0.5	2.3	5.0	1.8	6.8	0.2	0.2	1.3
Middle Atlantic Division:														
New York	E1	239	58	4.2	45.7	3.7	7.0	36.2	80.1	22.6	102.2	2.6	5.3	69.5
New Jersey	–	71	30	2.7	29.1	2.4	4.2	22.3	44.9	12.9	58.0	2.9	2.7	30.6
Pennsylvania	–	50	19	1.9	19.6	1.6	3.1	14.7	29.1	8.6	37.5	0.8	1.6	16.7
East North Central Division:														
Ohio	–	35	15	0.9	7.6	0.7	1.3	5.9	12.5	3.3	15.6	0.3	0.9	8.7
Indiana	–	12	6	0.8	7.2	0.7	1.2	5.1	11.5	3.2	14.4	(D)	CC	(D)
Illinois	–	89	32	3.5	37.2	3.0	5.5	27.3	70.0	23.6	94.1	3.2	FF	(D)
Michigan	E1	20	9	0.5	6.4	0.5	0.9	5.2	10.2	2.3	12.4	0.2	CC	(D)
West North Central Division:														
Minnesota	E1	13	3	0.3	2.0	0.2	0.4	1.5	3.3	0.8	4.1	0.1	AA	(D)
Missouri	–	27	10	0.8	7.8	0.7	1.2	5.8	13.7	4.5	18.1	0.5	EE	(D)
Kansas	–	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	–	12	7	0.7	6.9	0.6	1.1	5.6	10.7	3.5	14.2	(D)	0.6	7.3
North Carolina	–	10	4	0.4	2.7	0.3	0.6	2.0	3.9	1.3	5.2	0.1	0.4	2.9
Georgia	–	14	5	1.0	7.4	0.9	1.6	5.5	14.2	8.1	22.2	0.6	0.7	7.8
Florida	E3	28	3	0.3	2.4	0.2	0.4	1.8	4.1	0.8	4.9	0.1	BB	(D)
East South Central Division:														
Tennessee	–	9	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Texas	E2	34	9	0.9	7.5	0.8	1.6	5.7	11.7	4.7	16.4	0.5	CC	(D)
Pacific Division:														
California	E1	139	27	1.8	17.1	1.6	2.9	13.2	30.9	8.1	39.0	1.8	1.5	13.9
INDUSTRY 2791, TYPESETTING														
United States	**E1**	**2 406**	**389**	**27.2**	**364.7**	**21.7**	**38.8**	**271.6**	**623.4**	**110.5**	**730.6**	**36.7**	**26.0**	**426.0**
New England Division:														
Massachusetts	E1	78	17	0.9	12.0	0.7	1.3	8.7	20.2	3.5	23.5	1.1	1.3	19.8
Connecticut	E3	58	11	0.6	8.3	0.5	0.9	6.1	13.3	1.8	15.1	0.9	CC	(D)
Middle Atlantic Division:														
New York	E1	380	81	5.1	78.4	3.9	7.1	58.1	139.1	24.0	162.1	6.2	5.6	107.8
New Jersey	E3	122	16	1.3	15.4	1.0	1.8	11.4	26.6	5.6	31.9	2.0	1.0	15.4
Pennsylvania	–	109	32	3.3	40.8	2.7	4.9	31.1	67.2	12.3	78.7	4.5	2.7	38.7
East North Central Division:														
Ohio	–	91	14	1.0	13.4	0.8	1.3	9.7	22.4	3.1	25.3	1.2	1.2	17.9
Indiana	E1	47	6	0.6	7.4	0.5	0.9	5.5	11.8	3.2	14.9	0.8	0.6	7.2
Illinois	E1	189	31	2.5	37.8	2.1	3.8	28.4	66.7	9.2	75.1	3.4	3.0	51.8
Michigan	E3	91	15	1.1	17.0	0.9	1.6	12.2	29.2	4.7	33.8	1.9	1.0	17.5
Wisconsin	E1	53	7	0.4	5.3	0.3	0.6	3.8	9.0	1.2	10.1	(D)	0.3	4.6
West North Central Division:														
Minnesota	–	45	15	0.8	10.4	0.6	1.0	7.0	19.7	6.8	26.5	1.4	CC	(D)
Iowa	E1	18	3	0.2	2.7	0.2	0.4	1.7	4.7	0.8	5.3	0.3	0.2	1.7
Missouri	E1	77	14	0.8	10.7	0.7	1.2	8.1	16.6	4.4	20.9	1.0	0.7	12.0
South Atlantic Division:														
Maryland	–	68	18	1.1	14.1	0.9	1.6	11.0	23.1	4.0	27.1	1.6	0.8	12.1
District of Columbia	E1	32	8	0.4	5.4	0.3	0.6	4.3	8.2	1.1	9.2	0.4	BB	(D)
Virginia	E2	42	9	0.5	6.1	0.4	0.7	4.4	10.6	1.5	12.1	0.9	0.4	5.7
Georgia	E3	39	4	0.3	4.1	0.3	0.5	3.1	7.3	1.3	8.5	0.4	0.2	2.9
Florida	E4	76	6	0.5	5.2	0.4	0.6	3.8	9.1	1.8	10.8	0.8	0.4	6.5
East South Central Division:														
Tennessee	E3	40	5	0.3	4.1	0.3	0.5	3.1	7.6	1.2	8.8	(D)	0.3	4.6
West South Central Division:														
Texas	E1	106	17	1.0	12.3	0.8	1.4	9.2	20.0	3.9	23.9	1.2	0.9	13.5
Mountain Division:														
Colorado	E4	41	3	0.2	2.5	0.2	0.3	1.8	3.9	0.7	4.6	0.2	(NA)	(NA)
Arizona	E2	17	3	0.2	1.7	0.1	0.2	1.3	3.1	0.4	3.6	0.2	0.2	2.5
Pacific Division:														
Washington	E1	31	1	0.2	2.2	0.1	0.3	1.8	3.9	0.6	4.5	0.2	(NA)	(NA)
Oregon	E1	26	2	0.3	3.4	0.2	0.4	2.6	5.7	1.1	6.8	0.4	BB	(D)
California	E2	316	32	2.2	30.0	1.8	3.1	22.7	48.8	8.2	57.5	3.3	EE	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2793, PHOTOENGRAVING													
United States	E1	449	56	5.7	89.3	3.8	6.8	58.4	168.2	50.4	218.0	7.5	8.9	191.7
New England Division:													
Connecticut	E3	16	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	14.9
Middle Atlantic Division:													
New York	–	67	15	1.9	35.1	1.2	2.1	23.0	62.2	14.9	77.2	3.7	2.7	49.5
New Jersey	E1	35	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	9.8
Pennsylvania	E1	21	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	6.2
East North Central Division:														
Ohio	–	14	5	0.2	2.7	0.1	0.2	1.8	4.6	1.4	6.0	(D)	0.4	7.0
Illinois	E3	36	8	0.6	8.8	0.4	0.7	6.1	14.5	3.5	17.9	0.2	EE	(D)
Michigan	E2	20	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Florida	E4	20	2	0.2	2.0	0.1	0.2	1.2	3.6	0.9	4.5	0.2	0.2	5.2
East South Central Division:														
Tennessee	–	6	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Texas	E3	25	2	0.3	3.5	0.2	0.3	2.4	5.9	2.7	8.6	0.3	BB	(D)
Pacific Division:														
California	E1	62	4	0.6	8.7	0.4	0.6	4.6	26.3	13.2	39.1	0.7	CC	(D)
INDUSTRY 2794, ELECTROTYPING AND STEREOTYPING														
United States	–	40	5	0.4	6.8	0.3	0.5	4.6	10.0	3.8	13.8	0.1	1.7	28.5
INDUSTRY 2795, LITHOGRAPHIC PLATEMAKING SERVICES														
United States	–	697	217	15.2	273.9	10.6	20.4	181.5	466.8	198.9	667.0	27.4	8.9	185.1
New England Division:														
Massachusetts	–	20	8	0.4	5.7	0.3	0.5	4.0	9.7	6.3	15.8	1.9	0.2	3.2
Rhode Island	–	5	2	0.2	2.9	0.1	0.2	1.9	4.8	1.2	6.0	0.2	(NA)	(NA)
Connecticut	–	12	5	0.4	9.3	0.3	0.6	6.8	14.9	4.7	19.5	(D)	0.2	3.7
Middle Atlantic Division:														
New York	–	120	21	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.5	28.5
New Jersey	–	27	11	1.3	23.8	0.8	1.6	13.3	49.0	25.1	72.9	1.0	CC	(D)
Pennsylvania	–	32	7	0.6	11.8	0.5	0.9	8.5	17.7	5.0	22.6	1.2	BB	(D)
East North Central Division:														
Ohio	–	56	20	1.1	19.9	0.8	1.4	13.8	29.9	11.8	41.3	1.5	0.8	15.5
Indiana	–	11	4	0.2	2.7	0.1	0.2	1.8	4.9	2.2	7.0	0.3	(NA)	(NA)
Illinois	–	77	31	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.6	33.8
Michigan	E1	27	9	0.6	11.2	0.4	0.8	7.5	17.6	5.4	23.0	0.9	BB	(D)
Wisconsin	–	16	8	0.5	8.7	0.3	0.7	5.7	13.1	7.9	20.7	0.7	0.2	7.0
West North Central Division:														
Minnesota	E1	14	7	0.3	6.9	0.2	0.4	4.7	11.6	3.3	14.9	(D)	AA	(D)
Missouri	–	30	10	0.8	14.5	0.5	1.1	9.5	25.4	13.8	38.5	1.4	0.6	16.2
Kansas	–	9	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	E1	14	2	0.2	2.9	0.1	0.3	2.1	4.6	1.5	6.1	0.2	AA	(D)
District of Columbia	–	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	–	19	9	0.4	6.1	0.3	0.7	4.3	11.0	3.8	14.7	1.9	(NA)	(NA)
East South Central Division:														
Tennessee	–	13	6	0.4	5.1	0.3	0.5	3.2	9.0	3.6	12.6	0.7	BB	(D)
West South Central Division:														
Texas	–	24	8	0.6	8.8	0.5	0.8	6.3	17.0	10.3	26.9	1.8	AA	(D)
Pacific Division:														
California	–	66	23	1.3	25.0	0.9	1.7	17.1	44.9	12.7	57.5	1.7	0.5	10.9

– Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Greeting card publishing (SIC 2771)	Blankbooks and looseleaf binders (SIC 2782)	Bookbinding and related work (SIC 2789)	Typesetting (SIC 2791)	Photoengraving (SIC 2793)	Electrotyping and stereotyping (SIC 2794)	Plate making services (SIC 2795)
Primary product specialization ratio[1]	percent	78	86	96	97	83	79	87
Coverage ratio[2]	do	95	91	94	89	79	66	89
All establishments	number	166	505	987	2 406	449	40	697
With 1 to 19 employees	do	114	217	599	2 017	393	35	480
With 20 to 99 employees	do	23	195	240	363	47	4	198
With 100 employees or more	do	29	93	48	26	9	1	19
All employees, average for year	1,000	18.1	31.8	24.1	27.2	5.7	0.4	15.2
Payroll for year, all employees	mil. dol.	226.8	338.5	240.6	364.7	89.3	6.8	273.9
Production workers:								
Average for year	1,000	10.6	25.2	20.9	21.7	3.8	0.3	10.6
March	do	9.6	24.3	20.7	21.4	3.8	0.3	10.4
May	do	10.1	25.1	20.2	21.7	3.8	0.3	10.5
August	do	11.3	25.4	21.9	21.4	3.8	0.3	10.6
November	do	11.3	25.9	20.8	21.9	3.9	0.3	10.8
Hours	millions	21.7	49.8	38.8	38.8	6.8	0.5	20.4
January to March	do	5.0	12.0	9.4	9.5	1.8	0.1	5.0
April to June	do	5.5	12.5	9.5	9.8	1.6	0.1	5.1
July to September	do	5.4	12.5	10.0	9.6	1.7	0.1	5.2
October to December	do	5.7	12.8	9.8	9.9	1.7	0.1	5.1
Wages	mil. dol.	105.8	235.0	183.6	271.6	58.4	4.6	181.5
Cost of materials, etc.	do	364.9	396.9	126.0	110.5	50.4	3.8	198.9
Materials, parts, containers, etc., consumed	do	220.5	368.1	103.1	84.5	42.4	3.2	169.8
Resales	do	65.5	11.7	7.6	5.9	3.3	0.3	11.4
Fuels consumed	do	1.6	3.2	2.0	1.2	0.3	0.1	2.1
Purchased electric energy	do	5.5	7.4	4.8	6.3	2.2	0.1	7.1
Contract work	do	71.8	6.5	8.5	12.6	2.3	(Z)	8.5
Value of shipments, including resales	do	1 072.1	1 122.6	533.6	730.6	218.0	13.8	667.0
Value of resales	do	106.0	18.4	10.3	7.7	2.5	0.6	17.6
Value added by manufacture	do	655.9	739.9	408.8	623.4	168.2	10.0	466.8
Manufacturers' inventories:								
Beginning of year	do	207.8	112.0	43.1	38.5	11.6	0.5	53.8
Finished products	do	98.4	36.4	13.1	2.3	2.6	(Z)	17.2
Work in process	do	62.8	24.2	12.4	26.5	2.5	0.1	15.6
Materials, supplies, fuel, etc.	do	46.6	51.4	17.6	9.7	6.4	0.4	21.1
End of year	do	160.6	130.2	45.7	42.5	13.2	0.5	54.5
Finished products	do	45.5	41.4	13.7	2.3	2.8	(Z)	15.4
Work in process	do	64.4	33.3	13.2	29.8	3.0	0.1	16.0
Materials, supplies, fuel, etc.	do	50.6	55.5	18.9	10.3	7.4	0.4	23.2
Capital expenditures for plant and equipment	do	20.5	40.3	21.5	38.5	8.5	0.1	30.1
New capital expenditures	do	18.8	36.0	19.3	36.7	7.5	0.1	27.4
New buildings and other structures	do	5.8	9.0	2.2	5.9	1.2	(Z)	3.5
New machinery and equipment	do	13.0	27.1	17.1	30.8	6.3	0.1	23.9
Used capital expenditures	do	1.7	4.3	2.2	1.8	1.0	(Z)	2.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Greeting card publishing (SIC 2771)		Blankbooks and looseleaf binders (SIC 2782)		Bookbinding and related work (SIC 2789)		Typesetting (SIC 2791)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	(1.2)	25	(2.5)	24	(0.5)	51	(0.3)	43
Response coverage ratio[2] (percent)	78.9	(X)	64.9	(X)	53.8	(X)	43.0	(X)
Machinery	3.2	14	7.1	13	(2.1)	21	(3.9)	31
Response coverage ratio[2] (percent)	79.1	(X)	65.0	(X)	55.9	(X)	61.2	(X)
Cost of purchased communication services	2.8	7	(5.4)	15	(1.0)	23	(3.8)	32
Response coverage ratio[2] (percent)	82.4	(X)	62.0	(X)	50.9	(X)	60.8	(X)
Rental payments	10.2	5	13.2	6	15.3	11	19.5	11
Buildings and other structures	3.4	7	7.8	9	(11.8)	12	11.6	10
Machinery and equipment	6.8	7	5.3	9	(3.5)	18	(7.9)	20
Supplemental labor costs	40.5	2	67.1	1	32.4	6	50.1	4
Legal costs	15.7	2	27.5	2	17.9	5	25.6	4
Voluntary costs	24.8	2	39.6	2	14.5	8	24.4	6
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	98.8	3	66.5	6	(18.5)	18	(15.1)	17
New capital expenditures	5.9	4	7.5	8	(1.1)	68	(2.5)	65
Used capital expenditures	0.5	1	3.6	1	(2.0)	97	0.2	1
Retirements	(0.8)	26	(0.3)	31	(0.4)	36	(0.4)	28
End of year	104.4	3	77.3	5	(21.3)	19	(17.3)	20
Machinery and equipment:								
Beginning of year	128.9	6	194.3	4	151.5	8	198.6	10
New capital expenditures	13.4	5	(32.8)	16	(15.7)	20	(31.2)	22
Automobiles, trucks, etc., for highway use[3]	(0.6)	(A)	(0.6)	(A)	(0.8)	(A)	(2.7)	(A)
Computers and peripheral data processing equipment[3]	(0.9)	(A)	3.8	(A)	(0.1)	(A)	(7.6)	(A)
All other[3]	(10.8)	(A)	(20.5)	96	(6.5)	(A)	(11.7)	(A)
New machinery and equipment, n.s.k.[4]	(1.1)	(A)	(7.9)	(A)	(8.3)	(A)	(9.3)	(A)
Used capital expenditures	(1.5)	25	(1.3)	56	3.4	59	(2.6)	60
Retirements	9.8	3	4.7	12	(5.8)	17	(13.9)	22
End of year	134.0	7	223.8	3	164.8	8	218.5	9
Total gross value of depreciable assets:								
Beginning of year	227.8	4	260.8	4	170.0	8	213.8	10
New capital expenditures	19.2	4	40.3	14	(16.8)	23	(33.7)	22
Used capital expenditures	(2.0)	19	(4.9)	16	(5.4)	70	(2.8)	57
Retirements	10.6	5	4.9	13	(6.1)	16	(14.3)	21
End of year	238.4	4	301.2	3	186.0	8	235.9	9
Depreciation charges during 1977	14.5	5	23.5	3	13.2	7	28.1	2
Buildings and other structures	3.8	3	4.8	5	(0.9)	20	1.8	1
Machinery and equipment	10.7	6	18.7	4	12.3	8	26.3	12

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Photoengraving (SIC 2793)		Electrotyping and stereotyping (SIC 2794)		Lithographic platemaking services (SIC 2795)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	(0.1)	67	-	(X)	(0.8)	24
Response coverage ratio[2] (percent)	79.0	(X)	46.7	(X)	53.1	(X)
Machinery	(0.8)	28	-	(X)	5.3	29
Response coverage ratio[2] (percent)	69.0	(X)	62.8	(X)	49.5	(X)
Cost of purchased communication services	(0.6)	30	-	(X)	(4.5)	96
Response coverage ratio[2] (percent)	65.0	(X)	46.7	(X)	74.3	(X)
Rental payments	(4.4)	21	0.3	11	(6.5)	16
Buildings and other structures	(3.6)	19	0.3	6	(4.1)	21
Machinery and equipment	(0.8)	59	-	(X)	(2.5)	29
Supplemental labor costs	12.0	7	1.1	1	37.1	6
Legal costs	6.8	6	0.6	1	17.5	8
Voluntary costs	5.2	12	0.5	1	19.6	7
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	(4.3)	30	(1.3)	57	(41.7)	16
New capital expenditures	(0.4)	63	-	(X)	(1.4)	(A)
Used capital expenditures	-	(X)	-	(X)	(0.6)	20
Retirements	(0.3)	51	(0.8)	95	(0.3)	30
End of year	(4.4)	36	0.5	7	(43.4)	16
Machinery and equipment:						
Beginning of year	55.5	9	6.6	14	172.1	9
New capital expenditures	(5.5)	27	-	(X)	(34.1)	20
Automobiles, trucks, etc., for highway use[3]	(0.3)	(A)	-	(A)	(1.7)	(A)
Computers and peripheral data processing equipment[3]	(Z)	(A)	-	(A)	-	(A)
All other[3]	(2.8)	(A)	-	(A)	(23.6)	85
New machinery and equipment, n.s.k.[4]	(2.4)	(A)	-	(A)	(8.9)	(A)
Used capital expenditures	0.2	1	-	(X)	(6.1)	67
Retirements	(1.6)	56	(1.0)	64	(8.4)	39
End of year	59.7	9	5.6	12	204.0	8
Total gross value of depreciable assets:						
Beginning of year	59.7	8	(7.8)	19	213.8	8
New capital expenditures	(5.9)	28	-	(X)	(35.5)	21
Used capital expenditures	0.2	1	-	(X)	(6.7)	61
Retirements	(1.9)	55	(1.7)	77	(8.7)	38
End of year	64.0	8	6.1	10	247.3	7
Depreciation charges during 1977	5.2	10	(0.2)	34	(22.7)	15
Buildings and other structures	(0.3)	53	-	(X)	(2.6)	23
Machinery and equipment	4.9	11	(0.2)	36	(20.0)	15

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimate shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

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Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2771, GREETING CARD PUBLISHING												
Total	-	**166**	**18.1**	**226.8**	**10.8**	**21.7**	**105.8**	**655.9**	**364.9**	**1 072.1**	**18.8**	**160.6**
Establishments with an average of—												
1 to 4 employees	E9	71	0.1	1.8	0.1	0.1	0.7	5.5	2.6	8.1	0.1	1.8
5 to 9 employees	E9	24	0.2	2.2	0.1	0.2	0.9	6.6	3.2	9.8	0.2	2.1
10 to 19 employees	E3	18	0.3	3.0	0.2	0.4	1.5	7.3	4.8	12.1	0.1	1.9
20 to 49 employees	E1	14	0.5	6.2	0.4	0.6	3.3	14.0	9.0	22.6	0.4	3.7
50 to 99 employees	-	9	0.6	8.3	0.4	0.8	5.3	15.7	9.2	24.6	0.3	2.2
100 to 249 employees	-	16	2.6	27.3	2.0	4.0	17.7	57.9	48.5	105.8	2.2	16.8
250 to 499 employees	-	5	1.6	14.4	0.9	1.8	7.6	47.1	19.4	65.1	(15.5)	15.4
500 to 999 employees	-	5	3.5	50.6	2.5	4.5	27.0	211.6	89.0	296.8	(D)	35.3
1,000 to 2,499 employees	-	3	(8.7)	(113.0)	(4.1)	(9.3)	(41.8)	(290.2)	(179.2)	(527.1)	(D)	(81.4)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	92	0.4	5.0	0.2	0.4	2.1	14.8	7.3	22.1	0.4	4.7
INDUSTRY 2782, BLANKBOOKS AND LOOSELEAF BINDERS												
Total	-	**505**	**31.8**	**338.5**	**25.2**	**49.8**	**235.0**	**739.9**	**396.9**	**1 122.6**	**36.0**	**130.2**
Establishments with an average of—												
1 to 4 employees	E7	114	0.2	2.1	0.2	0.3	1.5	5.2	2.6	7.8	0.7	0.9
5 to 9 employees	E7	45	0.3	3.3	0.2	0.5	2.3	6.9	3.9	10.8	0.2	1.3
10 to 19 employees	E3	58	0.8	8.2	0.6	1.3	5.6	16.2	10.3	26.3	1.2	2.6
20 to 49 employees	-	110	3.5	33.1	2.7	5.7	22.4	66.4	47.0	113.0	2.8	10.7
50 to 99 employees	-	85	6.0	58.9	4.8	9.6	40.8	123.9	61.0	183.4	8.4	16.0
100 to 249 employees	-	72	11.0	119.7	8.9	17.4	85.0	254.9	138.4	391.4	13.0	34.2
250 to 499 employees	-	15	5.2	58.7	4.0	7.8	40.4	118.5	72.3	193.0	(9.6)	22.4
500 to 999 employees	-	4	(4.8)	(54.4)	(3.7)	(7.3)	(36.9)	(147.9)	(61.3)	(196.8)	(D)	(42.1)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	140	0.6	5.8	0.5	0.9	4.1	12.5	6.7	19.2	0.5	2.3
INDUSTRY 2789, BOOKBINDING AND RELATED WORK												
Total	E1	**987**	**24.1**	**240.6**	**20.9**	**38.8**	**183.6**	**408.8**	**126.0**	**533.6**	**19.3**	**45.7**
Establishments with an average of—												
1 to 4 employees	E8	373	0.7	6.9	0.7	1.1	5.2	14.6	3.7	18.2	0.7	1.4
5 to 9 employees	E3	150	1.0	10.4	0.9	1.6	7.7	19.1	4.6	23.5	0.7	1.9
10 to 19 employees	E2	176	2.4	23.4	2.1	3.6	17.5	40.7	11.2	51.6	1.9	4.3
20 to 49 employees	E1	157	4.7	47.6	4.0	7.3	35.8	78.4	18.4	96.4	3.6	6.5
50 to 99 employees	-	83	5.9	63.6	5.1	9.8	50.3	103.6	27.6	130.9	3.8	8.3
100 to 249 employees	-	37	5.0	46.2	4.3	8.4	35.3	86.7	32.1	118.2	4.1	15.1
250 to 499 employees	-	9	(4.5)	(42.4)	(3.9)	(7.1)	(31.8)	(65.8)	(28.5)	(94.9)	(4.5)	(8.2)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	363	1.0	10.1	1.0	1.7	7.5	18.4	5.5	23.9	0.9	2.1
INDUSTRY 2791, TYPESETTING												
Total	E1	**2 406**	**27.2**	**364.7**	**21.7**	**38.8**	**271.6**	**523.4**	**110.5**	**730.6**	**36.7**	**42.5**
Establishments with an average of—												
1 to 4 employees	E8	1 365	2.0	26.8	2.0	2.9	20.4	54.3	10.1	64.7	4.9	3.0
5 to 9 employees	E3	341	2.3	29.1	1.8	3.3	22.1	52.4	8.9	61.1	3.6	2.8
10 to 19 employees	E1	311	4.2	54.0	3.4	5.8	40.6	90.4	16.6	106.7	6.1	5.2
20 to 49 employees	-	274	8.2	107.0	6.4	11.5	79.8	183.9	31.6	214.5	10.6	11.2
50 to 99 employees	E1	89	5.9	83.9	4.5	8.5	62.4	132.8	22.2	154.4	(11.5)	10.8
100 to 249 employees	-	23	3.1	47.4	2.4	4.4	33.3	80.4	16.3	95.8	(D)	5.2
250 to 499 employees	-	2	(1.4)	(16.4)	(1.2)	(2.3)	(13.0)	(29.2)	(4.7)	(33.2)	(D)	(4.4)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	1 232	2.2	28.4	2.1	3.1	21.5	54.2	10.7	64.9	5.0	2.9
INDUSTRY 2793, PHOTOENGRAVING												
Total	E1	**449**	**5.7**	**89.3**	**3.8**	**6.8**	**58.4**	**168.2**	**50.4**	**218.0**	**7.5**	**13.2**
Establishments with an average of—												
1 to 4 employees	E8	233	0.4	6.2	0.3	0.5	4.3	13.5	3.5	17.1	0.5	0.6
5 to 9 employees	E3	84	0.6	8.0	0.4	0.7	5.5	14.7	3.7	18.3	0.6	0.7
10 to 19 employees	E1	76	1.0	13.0	0.7	1.3	8.8	23.3	6.1	29.4	0.8	1.0
20 to 49 employees	E1	33	1.0	16.0	0.7	1.3	10.5	26.8	7.2	34.0	1.1	2.3
50 to 99 employees	E1	14	1.0	17.5	0.7	1.3	12.2	29.9	8.1	37.8	2.4	1.1
100 to 249 employees	-	7	(1.7)	(28.6)	(1.0)	(1.7)	(17.0)	(60.1)	(21.8)	(81.4)	(2.2)	(7.7)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	229	0.5	7.5	0.4	0.6	5.1	14.7	3.8	18.5	0.6	0.6
INDUSTRY 2794, ELECTROTYPING AND STEREOTYPING												
Total	-	**40**	**0.4**	**6.8**	**0.3**	**0.5**	**4.6**	**10.0**	**3.8**	**13.8**	**0.1**	**0.5**
Establishments with an average of—												
1 to 4 employees	E7	21	(Z)	0.7	(Z)	(Z)	0.4	1.2	0.4	1.5	(Z)	(Z)
5 to 9 employees	E1	8	0.1	0.8	(Z)	0.1	0.5	1.3	0.6	1.9	(Z)	0.1
10 to 19 employees	-	6	0.1	1.1	(Z)	0.1	0.6	1.4	0.7	2.1	(Z)	0.1
20 to 49 employees	-	4	(0.2)	(4.1)	(0.2)	(0.4)	(3.0)	(6.2)	(2.1)	(8.3)	(0.1)	(0.3)
100 to 249 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	15	(Z)	0.5	(Z)	(Z)	0.3	0.8	0.3	1.1	(Z)	(Z)

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2795, LITHOGRAPHIC PLATEMAKING SERVICES												
Total	-	**697**	**15.2**	**273.9**	**10.6**	**20.4**	**181.5**	**466.8**	**198.9**	**667.0**	**27.4**	**54.5**
Establishments with an average of—												
1 to 4 employees	E5	161	0.3	5.8	0.3	0.4	3.9	10.1	8.1	18.2	1.1	1.3
5 to 9 employees	E2	156	1.1	16.4	0.8	1.4	11.5	28.9	12.9	41.5	3.2	3.1
10 to 19 employees	-	163	2.2	34.6	1.5	2.7	24.1	56.4	23.3	79.0	3.0	5.3
20 to 49 employees	-	144	4.4	81.7	3.2	6.4	57.0	138.1	53.6	190.8	8.5	10.7
50 to 99 employees	-	54	3.7	70.3	2.6	5.1	47.3	119.3	43.7	162.0	7.9	10.2
100 to 249 employees	-	17	(3.4)	(65.2)	(2.2)	(4.4)	(37.8)	(114.0)	(57.2)	(175.6)	(3.8)	(23.9)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	137	0.4	7.7	0.3	0.6	5.4	13.5	5.9	19.4	1.5	1.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2771	**Greeting card publishing:**										
	Entire industry	166	18.1	226.8	10.6	21.7	105.8	655.9	364.9	1 072.1	18.8
	Establishments with 75 percent specialization or more	142	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
27711	Greeting cards, publishers' sales:										
	Establishments with this product class primary	43	15.9	188.8	8.9	18.2	84.6	606.6	322.7	982.0	17.1
	Establishments with 75 percent specialization or more in class	33	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
27712	Greeting cards, printed for publication by others:										
	Establishments with this product class primary	10	0.7	11.4	0.5	1.0	8.3	20.5	10.8	30.9	0.5
	Establishments with 75 percent specialization or more in class	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2782	**Blankbooks and looseleaf binders:**										
	Entire industry	505	31.8	338.5	25.2	49.8	235.0	739.9	396.9	1 122.6	36.0
	Establishments with 75 percent specialization or more	461	25.2	263.6	19.9	39.3	182.7	574.2	291.8	857.9	29.7
27821	Blankbook making:										
	Establishments with this product class primary	179	18.0	198.8	14.5	29.2	145.2	429.0	201.9	632.9	21.1
	Establishments with 75 percent specialization or more in class	160	14.6	159.9	11.9	24.0	118.2	349.8	147.5	497.2	17.6
27822	Looseleaf binders and devices:										
	Establishments with this product class primary	119	11.3	113.2	8.6	16.8	71.2	255.7	164.8	404.5	12.9
	Establishments with 75 percent specialization or more in class	93	6.6	64.3	4.8	9.3	37.5	134.9	98.1	225.7	(D)
2789	**Bookbinding and related work:**										
	Entire industry	987	24.1	240.6	20.9	38.8	183.6	408.8	126.0	533.6	19.3
	Establishments with 75 percent specialization or more	937	21.7	214.6	18.8	34.8	163.2	364.2	113.1	476.3	17.9
27891	Edition, library, and other hard cover bookbinding:										
	Establishments with this product class primary	116	7.8	73.5	6.7	12.5	56.0	129.0	53.8	182.1	4.1
	Establishments with 75 percent specialization or more in class	98	6.3	58.0	5.3	9.9	43.5	104.0	42.7	146.3	3.4
27892	Other book, pamphlet, and related binding:										
	Establishments with this product class primary	306	11.5	119.3	10.0	18.6	91.2	196.9	51.1	247.6	10.9
	Establishments with 75 percent specialization or more in class	278	9.7	99.7	8.4	15.8	76.6	163.6	39.6	202.6	7.4
2791	**Typesetting:**										
	Entire industry	2 406	27.2	364.7	21.7	38.8	271.6	623.4	110.5	730.6	36.7
	Establishments with 75 percent specialization or more	2 331	25.9	348.0	20.7	37.0	259.2	595.1	101.3	692.9	34.8
2793	**Photoengraving:**										
	Entire industry	449	5.7	89.3	3.8	6.8	58.4	168.2	50.4	218.0	7.5
	Establishments with 75 percent specialization or more	399	3.9	60.8	2.7	4.7	39.3	116.3	35.7	151.2	4.8
2794	**Electrotyping and stereotyping:**										
	Entire industry	40	0.4	6.8	0.3	0.5	4.6	10.0	3.8	13.8	0.1
	Establishments with 75 percent specialization or more	34	0.2	3.0	0.1	0.2	1.8	5.4	2.2	7.6	(D)
2795	**Lithographic platemaking services:**										
	Entire industry	697	15.2	273.9	10.6	20.4	181.5	466.8	198.9	667.0	27.4
	Establishments with 75 percent specialization or more	616	12.0	215.4	8.4	16.0	142.1	369.9	167.4	539.4	23.4
27951	Lithographic plates:										
	Establishments with this product class primary	102	3.6	59.2	2.3	4.3	34.2	111.0	80.5	195.3	4.7
	Establishments with 75 percent specialization or more in class	76	2.0	28.9	1.3	2.3	16.3	48.5	46.9	100.6	3.4
27952	Lithographic platemaking services:										
	Establishments with this product class primary	403	10.5	196.2	7.5	14.6	134.6	323.8	105.0	426.8	19.7
	Establishments with 75 percent specialization or more in class	309	6.8	127.2	4.9	9.5	87.4	212.3	75.6	286.2	14.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2771	Greeting card publishing....1977..	1,072.1	725.4	210.1	136.6	78	765.2	725.4	39.8	95
	1972..	774.4	565.7	180.8	27.9	76	583.5	565.7	17.8	97
	1967..	517.9	412.4	63.6	41.9	87	441.4	412.4	29.0	93
2782	Blankbooks and looseleaf binders....1977..	1,122.6	948.3	151.5	22.8	86	1.039.5	948.3	91.2	91
	1972..	591.1	512.8	64.6	13.7	89	571.3	512.8	58.5	90
	1967..	381.3	319.4	51.7	10.2	86	362.3	319.4	42.9	88
2789	Bookbinding and related work....1977..	533.6	476.1	20.9	36.6	96	508.0	476.1	31.9	94
	1972..	377.2	328.7	16.3	32.2	95	369.2	328.7	40.5	89
	1967..	340.6	301.1	17.7	21.8	94	337.5	301.1	36.4	89
2791	Typesetting....1977..	730.6	696.4	21.0	13.2	97	781.5	696.4	85.1	89
	1972..	482.8	461.6	12.3	8.9	97	508.7	461.6	47.1	91
	1967..	356.7	333.9	16.1	6.7	95	362.1	333.9	28.2	92
2793	Photoengraving....1977..	218.0	176.6	36.3	5.1	83	223.5	176.6	46.9	79
	1972..	229.7	186.4	39.4	3.9	83	221.3	186.4	34.9	84
	1967..	234.3	214.6	14.3	5.4	94	237.1	214.6	22.5	91
2794	Electrotyping and stereotyping....1977..	13.8	10.3	2.8	.7	79	15.6	10.3	5.3	66
	1972..	36.8	27.4	6.5	2.9	81	35.5	27.4	8.1	77
	1967..	62.1	52.1	6.6	3.4	89	61.4	52.1	9.3	85
2795	Lithographic platemaking services....1977..	667.0	564.3	81.5	21.2	87	630.7	564.3	66.4	89
	1972..	257.0	218.1	31.7	7.2	87	263.0	218.1	44.9	83
	1967..	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

(NA) Not available.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Greeting card publishing (SIC 2771)	Blankbooks and looseleaf binders (SIC 2782)	Bookbinding and related work (SIC 2789)	Typesetting (SIC 2791)	Photoengraving (SIC 2793)	Electrotyping and stereotyping (SIC 2794)	Lithographic platemaking services (SIC 2795)	Other industries
	Total	(X)	1,072.1	1,122.6	533.6	730.6	218.0	13.8	667.0	(X)
	Primary products	(X)	725.4	948.3	476.1	696.4	176.6	10.3	564.3	(X)
	Secondary products	(X)	210.1	151.5	20.9	21.0	36.3	2.8	81.5	(X)
	Miscellaneous receipts	(X)	136.6	22.8	36.6	13.2	5.1	.7	21.2	(X)
2771-	Greeting card publishing	765.2	725.4	-	-	(D)	-	-	-	(D)
27711	Greeting cards, publishers' sales	694.3	671.8	-	-	-	-	-	-	22.5
27712	Greeting cards, printed for publication by others	39.6	22.6	-	-	(D)	-	-	-	(D)
27710	Greeting card publishing, n.s.k	31.3	31.0	-	-	-	-	-	-	.3
2782-	Blankbooks and looseleaf binders	1,039.5	(D)	948.3	(D)	-	-	-	-	65.0
27821	Blankbook making	605.7	(D)	560.3	(D)	-	-	-	-	26.8
27822	Looseleaf binders and devices	346.3	(D)	302.0	7.4	-	-	-	-	(D)
27820	Blankbooks and looseleaf binders, n.s.k	87.5	-	86.0	(D)	-	-	-	-	(D)
2789-	Bookbinding and related work	508.0	(D)	9.1	476.1	(D)	-	-	(D)	22.5
27891	Edition, library, and other hard cover bookbinding	172.3	-	3.1	165.6	-	-	-	(D)	(D)
27892	Other book, pamphlet, and related binding work	253.3	(D)	6.0	229.0	(D)	-	-	(D)	18.2
27890	Bookbinding and related work, n.s.k	82.4	-	-	81.5	-	-	-	(D)	(D)
27910	Typesetting	781.5	-	(D)	(D)	696.4	(D)	(D)	5.4	76.6
27930	Photoengraving plates made for others	223.5	-	-	(D)	1.0	176.6	(D)	32.8	12.8
27940	Electrotyping and stereotyping duplicate plates	15.6	-	-	(D)	.4	(D)	10.3	3.2	(D)
2795-	Lithographic platemaking services	630.7	(D)	-	(D)	6.8	21.7	(D)	564.3	37.8
27951	Lithographic plates	183.6	(D)	-	(D)	.7	1.6	(D)	160.1	21.2
27952	Lithographic platemaking services	403.3	-	-	(D)	6.1	20.1	(D)	360.6	16.4
27950	Lithographic platemaking services, n.s.k	43.8	-	-	-	-	-	-	43.6	.2
	Other shipments by 4-digit product group:									
2297-	Nonwoven fabrics	(X)	(D)	-	-	-	-	-	-	(X)
2542-	Metal partitions and fixtures	(X)	-	(D)	-	-	-	-	-	(X)
2642-	Envelopes	(X)	(D)	(D)	(D)	(D)	(D)	-	-	(X)
2645-	Die-cut paper and board	(X)	-	6.8	(D)	(D)	-	-	-	(X)
2647-	Sanitary paper products	(X)	(D)	-	-	-	-	-	-	(X)
2648-	Stationery products	(X)	(D)	34.1	(D)	-	-	-	-	(X)
2649-	Converted paper products, n.e.c	(X)	68.6	(D)	(D)	-	-	-	-	(X)
2654-	Sanitary food containers	(X)	(D)	-	-	-	-	-	-	(X)
2731-	Book publishing	(X)	(D)	-	-	(D)	-	-	-	(X)
2741-	Miscellaneous publishing	(X)	16.4	-	-	-	-	-	-	(X)
2751-	Commercial printing, letterpress	(X)	(D)	42.1	(D)	(D)	(D)	-	(D)	(X)
2752-	Commercial printing, lithographic	(X)	(D)	(D)	(D)	7.6	.8	-	6.1	(X)
2753-	Engraving and plate printing	(X)	-	(D)	(D)	(D)	(D)	1.2	(D)	(X)
2754-	Commercial printing, gravure	(X)	-	-	-	(D)	(D)	-	7.3	(X)
2761-	Manifold business forms	(X)	(D)	(D)	(D)	(D)	(D)	-	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	(D)	-	-	-	-	(X)
3497-	Metal foil and leaf	(X)	(D)	-	(D)	-	-	-	-	(X)
3555-	Printing trades machinery	(X)	-	(D)	(D)	(D)	(D)	-	(D)	(X)
3579- 3572-	Office machines, n.e.c. and typewriters	(X)	-	(D)	-	-	-	-	-	(X)
3599	Machinery, except electrical, n.e.c	(X)	-	-	-	-	(D)	-	-	(X)
3861-	Photographic equipment and supplies	(X)	-	-	-	(D)	-	-	(D)	(X)
3944-	Games, toys, and children's vehicles	(X)	(D)	-	(D)	-	-	-	-	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	(D)	2.6	24.4	-	-	-	-	(X)
99980 00	Miscellaneous receipts, n.s.k	(X)	-	(D)	.5	2.9	.4	(D)	.5	(X)
99980 13	Sales of scrap and refuse	(X)	.1	(D)	.6	(D)	(Z)	(D)	(D)	(X)
99980 41	Receipts for research and developmental work	(X)	-	-	-	(D)	-	-	(D)	(X)
99980 98	Other miscellaneous receipts, including receipts for repair work, etc	(X)	(D)	.5	.8	2.3	2.3	-	2.8	(X)
99989 00	Resales	(X)	106.0	18.4	10.3	7.7	2.5	.6	17.6	(X)

See footnotes at end of table.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
2771-	2649 Converted paper products, n.e.c.	(D)
	2752 Commercial printing, lithographic	14.8
	2761 Manifold business forms	(D)
2782-	2648 Stationery products	30.2
	2752 Commercial printing, lithographic	7.9
	2761 Manifold business forms	(D)
	3579 Office machines, n.e.c.	(D)
2789-	2752 Commercial printing, lithographic	16.2
2791-	2732 Book printing	(D)
	2751 Commercial printing, letterpress	8.7
	2752 Commercial printing, lithographic	52.8
2795-	2752 Commercial printing, lithographic	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	GREETING CARD PUBLISHING						
2771- --	Total		(NA)	(X)	765.2	(X)	583.5
27711 --	Greeting cards, publishers' sales		(NA)	(X)	694.3	(X)	510.8
	Christmas cards:						
27711 13	Counter cards	Millions	17	*363.1	81.8	[3]2,278.0	125.1
27711 15	Packaged cards, including boxed cards		24	**1,254.3	91.4		
	Valentine cards:						
27711 22	Counter cards		7	*571.6	55.0	[3]273.0	30.7
27711 24	Packaged cards, including boxed cards		4				
27711 26	Mother's Day cards		10	*121.4	33.2	[3]563.0	62.3
27711 28	Seasonal cards other than Christmas, Valentine, and Mother's Day		14	*355.8	81.4		
	Other greeting cards:						
27711 33	Counter cards		13	*1,603.2	323.5	[3]2,222.0	286.7
27711 35	Packaged cards, including boxed cards	Millions	11	*460.9	21.8		
27711 00	Greeting cards, n.s.k.		(NA)	(X)	6.2	(X)	5.9
27712 --	Greeting cards, printed for publication by others		(NA)	(X)	39.6	(X)	48.8
27712 11	Letterpress process		6	(X)	1.7	(X)	4.7
27712 51	Lithographic process		31	(X)	36.2	(X)	41.3
27712 00	Greeting cards, printed for publication by others, n.s.k.		(NA)	(X)	1.7	(X)	2.8
27710 00	Greeting cards, receipts, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	9.2	(X)	16.4
27710 02	Greeting cards, receipts, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	22.1	(X)	7.5

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[4] (million dollars)	
	BLANKBOOKS AND LOOSELEAF BINDERS			
2782- --	Total	(NA)	1,039.5	571.3
27821 --	Blankbook making	(NA)	605.7	320.1
27821 11	Columnar, ledger, and account books, including record books which are section-sewed and center stitched, including time books and miniature account books	14	30.5	21.8
27821 31	Albums and scrapbooks, including record, photograph, stamp albums, etc.	29	78.1	54.1
27821 35	Diaries and appointment books	121	41.1	15.8
	Checkbooks, including inserts and refills, but excluding those in continuous form and die-cut:			
27821 43	Letterpress process	24	345.0	170.6
27821 45	Lithographic process	17	70.6	13.5
27821 51	Columnar pads, (lithographed, printed, or ruled; bound or wirebound)	5	14.6	8.2
27821 53	Memo books, case-made, sewed or glued to leather, imitation leather, or similar materials	7	7.9	7.7
27821 55	Miscellaneous blankbooks, including address books, bound roll books, drafts, receipts, and financial notes	15	13.2	18.0
27821 61	Paper ruling on materials owned by others (pen and disc)	-	(Z)	.4
27821 00	Blankbook making, n.s.k.	(NA)	4.7	10.0
27822 --	Looseleaf binders and devices	(NA)	346.3	209.9
27822 13	Looseleaf forms, record type	11	21.0	15.0
27822 21	Looseleaf indexes	36	17.1	6.6
27822 33	Looseleaf binders, ring and prong type, including looseleaf memo books	95	208.5	105.9
	Post binders:			
27822 34	Heavy post type	22	18.5	29.6
27822 35	Thin post type, including flexible post and data binders	11	20.8	
27822 39	Other looseleaf binders, including minute and municipality record books, and catalog covers	12	9.6	10.9
27822 71	Metal looseleaf components, sold separately	11	25.8	15.7
27822 81	Microfiche housing devices, manual, including envelopes and panels, but excluding box files and rotary files	3	1.2	9.7
27822 98	Other looseleaf binders and devices, n.e.c.	23	16.7	
27822 00	Looseleaf binders and devices, n.s.k.	(NA)	7.1	16.5
27820 00	Blankbooks and looseleaf binders, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	68.3	31.5
27820 02	Blankbooks and looseleaf binders, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	19.2	9.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of receipts (million dollars)
		Number of companies with receipts of $100,000 or more	Value of receipts[5] (million dollars)	
	BOOKBINDING AND RELATED WORK			
2789- --	Total	(NA)	508.0	369.2
27891 --	Edition, library, and other hard cover bookbinding	(NA)	172.3	147.6
	Edition, library, and trade binding, excluding books published and bound or printed and bound at the same establishment:			
27891 11	Elementary and high school textbooks (grades K through 12, including textbook-related teachers' editions, manuals, etc.)	12	8.7	11.6
27891 12	Technical, scientific, business, and professional books, and college textbooks (grades 13 and over), including private business and secretarial schools, post-high school vocational schools, institutes, and training courses	31	20.0	20.0
27891 13	General consumer and trade books, including adult and juvenile trade books and book club and indirect mail books	32	55.8	32.1
27891 14	Subscription reference books, including encyclopedias, religious subscription reference books, and other subscription reference books	5	2.4	14.8
27891 16	All other books, n.e.c., including religious books and dictionaries (Bibles, testaments, hymnals, devotionals, thesauruses, atlases, etc.)	19	30.2	24.1
27891 41	Library binding, including rebinding and prebinding of books for library use, hard cover binding of periodicals and records, and other hard cover binding, except edition	39	40.9	41.8
27891 00	Edition, library, and other hard cover bookbinding, n.s.k.	(NA)	14.3	3.0
27892 --	Other book and pamphlet binding and related binding work	(NA)	253.3	164.8
27892 23	Soft cover binding of books (49 pages or more, exclusive of the covers)	53	29.8	12.1
27892 25	Pamphlet and other soft cover binding	97	66.7	55.4
27892 61	Mechanical binding (wire, plastic, etc.) of products printed elsewhere	40	20.0	15.9
27892 91	Receipts for miscellaneous bookbinding work (material printed elsewhere); embossing, varnishing, indexing, mounting, and other service operations related to bookbinding, including sample and color cards	106	99.2	75.0
27892 00	Other book and pamphlet binding and related binding work, n.s.k.	(NA)	37.6	6.4
27890 00	Bookbinding and related work, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	58.5	30.3
27890 02	Bookbinding and related work, n.s.k., typically for establishments less than 5 employees (see note)	(NA)	23.9	26.6
	TYPESETTING			
2791- --	Total	(NA)	781.5	508.7
27910 --	Typesetting:			
27910 11	Hot metal and related typesetting, including all hand and machine typesetting, composition, and such other typographic services involving metal and not associated with photographic-film-typesetting or direct impression typesetting and their related processes	265	149.6	270.5
	Photographic typesetting, including phototypesetting, photolettering and such other typographic processes and services which employ photographic equipment and/or photographic materials and techniques:			
27910 12	Computer-controlled with pagination capability	460	313.5	112.6
27910 14	All other phototypesetting	81	38.5	18.5
27910 15	Direct impression typesetting, including all nonmetallic, nonphotographic typesetting and composition normally produced by direct impression procedures and related processes	27	13.5	10.8
27910 00	Typesetting, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	201.6	43.5
27910 02	Typesetting, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	64.8	52.7
	PHOTOENGRAVING			
2793- --	Total	(NA)	223.5	221.3
27930 --	Photoengraving plates made for others:			
27930 13	Zinc	47	22.8	73.9
27930 15	Copper	33	50.9	75.8
27930 17	Magnesium	75	31.3	15.7
27930 19	Other	32	44.3	16.9
27930 00	Photoengraving, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	55.7	24.0
27930 02	Photoengraving, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	18.5	14.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of receipts (million dollars)
		Number of companies with shipments of $100,000 or more	Value of receipts[5] (million dollars)	
	ELECTROTYPING AND STEREOTYPING			
2794- --	Total	(NA)	15.6	35.5
27940 --	Electrotyping and stereotyping duplicate plates made for others:			
27940 11	Electrotypes	10	7.1	17.5
27940 31	Stereotyping	-	.7	1.9
27940 51	Matrices	2		7.6
27940 00	Electrotyping and stereotyping, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	6.7	6.8
27940 02	Electrotyping and stereotyping, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	1.1	1.6
	LITHOGRAPHIC PLATEMAKING SERVICES			
2795- --	Total	(NA)	630.7	263.0
27951 --	Lithographic plates	(NA)	183.6	112.3
27951 13	Diazo type plates (prepared for printing)	24	62.5	32.7
27951 15	Wipe on plates	28	32.3	18.4
27951 17	Deep etch plates	26	19.0	r19.8
27951 23	Multimetal plates	18	11.4	11.4
27951 29	All other lithographic plates	44	21.7	30.0
27951 00	Lithographic plates, n.s.k	(NA)	36.7	
27952 --	Lithographic platemaking services	(NA)	403.3	131.6
27952 31	Color corrected process positives or negatives on film	200	221.6	94.4
27952 39	All other film	111	66.5	24.3
27952 41	Assembled flats for platemaking	73	47.2	12.9
27952 00	Lithographic platemaking services, n.s.k	(NA)	68.0	-
27950 00	Lithographic platemaking services, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	24.4	19.1
27950 02	Lithographic platemaking services, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	19.4	(6)

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.
(X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Quantity reported in 1972 is not comparable with quantity reported in 1977. For 1972, quantity was reported in number of packs (plastic, vinyl, and cello); in 1977, in number of cards.

[4]Value reported by all producers of product, not just those with shipments of $100,000 or more.

[5]Value reported by all producers of product, not just those with receipts of $100,000 or more.

[6]For 1972, administrative records were not separately identified between lithographic platemaking services and lithographic printing (prior to 1972, lithographic platemaking services were a part of Industry 2752, Commercial Printing, Lithographic). 1972 value of receipts for these establishments was included in product code 27520 02.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some states are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
27711, GREETING CARDS, PUBLISHERS' SALES		
United States	694.3	510.8
New England Division:		
Massachusetts	44.5	43.8
Middle Atlantic Division:		
New York	26.3	43.5
East North Central Division:		
Illinois	28.8	20.3
Pacific Division:		
California	5.4	FF
27712, GREETING CARDS, PRINTED FOR PUBLICATION BY OTHERS		
United States	39.6	48.8
Middle Atlantic Division:		
New York	3.1	5.4
East North Central Division:		
Illinois	2.4	EE
West North Central Division:		
Missouri	7.0	12.5
Pacific Division:		
California	2.9	BB
27821, BLANKBOOK MAKING		
United States	605.7	320.1
New England Division:		
Massachusetts	52.6	27.3
Connecticut	30.3	16.1
Middle Atlantic Division:		
New York	42.5	51.6
New Jersey	55.9	34.2
Pennsylvania	36.6	12.5
East North Central Division:		
Ohio	17.8	CC
Indiana	8.8	CC
Illinois	30.3	20.3
Wisconsin	12.5	7.9
West North Central Division:		
Missouri	28.1	6.7
South Atlantic Division:		
Maryland	8.2	4.7
Virginia	14.8	6.4
Georgia	13.3	4.6
Florida	21.9	5.0
East South Central Division:		
Kentucky	5.3	AA
Tennessee	11.6	(NA)
Mississippi	3.6	(NA)
West South Central Division:		
Texas	30.2	13.9
Mountain Division:		
Arizona	8.5	BB
Pacific Division:		
California	46.5	34.9
27822, LOOSELEAF BINDERS AND DEVICES		
United States	346.3	209.9
New England Division:		
Massachusetts	29.3	FF
Middle Atlantic Division:		
New York	36.1	43.7
New Jersey	53.0	10.2
Pennsylvania	7.7	4.5
East North Central Division:		
Ohio	5.4	3.2
Illinois	58.9	46.5
Michigan	19.6	8.6
West North Central Division:		
Minnesota	4.2	4.3
Missouri	32.7	24.2
South Atlantic Division:		
Georgia	4.2	3.5
East South Central Division:		
Tennessee	7.2	AA
West South Central Division:		
Texas	10.4	BB
Mountain Division:		
Arizona	4.1	BB
Pacific Division:		
California	37.7	17.0
27891, EDITION, LIBRARY, AND OTHER HARD COVER BOOKBINDING		
United States	172.3	147.6
New England Division:		
Massachusetts	2.3	3.9
Middle Atlantic Division:		
New York	20.7	19.7
New Jersey	30.5	18.2
Pennsylvania	22.4	9.1
East North Central Division:		
Ohio	5.2	4.4
Illinois	37.3	31.3
Michigan	4.3	4.1
West North Central Division:		
Missouri	5.9	18.9
South Atlantic Division:		
Maryland	3.6	BB
West South Central Division:		
Texas	4.9	2.4
Pacific Division:		
California	3.6	CC
27892, OTHER BOOK, PAMPHLET, AND RELATED BINDING WORK		
United States	253.3	164.8
New England Division:		
Massachusetts	9.7	9.5
Connecticut	5.0	AA
Middle Atlantic Division:		
New York	58.5	41.9
New Jersey	18.9	11.8
Pennsylvania	10.7	11.9

See footnotes at end of table.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972 — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
27892, OTHER BOOK, PAMPHLET, AND RELATED BINDING WORK--Con.		
East North Central Division:		
Ohio	11.2	5.4
Indiana	7.3	3.5
Illinois	40.0	30.4
Michigan	7.2	6.4
West North Central Division:		
Minnesota	3.5	(NA)
Iowa	2.4	(NA)
Missouri	8.7	4.7
South Atlantic Division:		
Maryland	5.4	BB
North Carolina	3.2	AA
West South Central Division:		
Texas	3.8	4.6
Mountain Division:		
California	18.3	8.4
27951, LITHOGRAPHIC PLATES		
United States	183.6	112.3
New England Division:		
Massachusetts	7.8	AA
Connecticut	7.1	(NA)
Middle Atlantic Division:		
New York	37.8	26.5
New Jersey	35.3	15.6
Pennsylvania	2.2	2.4
East North Central Division:		
Ohio	11.1	6.4
Illinois	17.3	13.6
Michigan	2.8	5.4
Wisconsin	11.1	7.3
West North Central Division:		
Minnesota	4.9	BB
Missouri	11.7	9.0
South Atlantic Division:		
Maryland	2.2	6.0
East South Central Division:		
Tennessee	2.8	(NA)
West South Central Division:		
Texas	10.6	CC
27951, LITHOGRAPHIC PLATES--Con.		
Pacific Division:		
California	7.0	BB
27952, LITHOGRAPHIC PLATEMAKING SERVICES		
United States	403.3	131.6
New England Division:		
Massachusetts	6.7	9.5
Connecticut	6.3	AA
Middle Atlantic Division:		
New York	58.9	41.9
New Jersey	21.2	11.8
Pennsylvania	14.8	11.9
East North Central Division:		
Ohio	27.5	5.4
Indiana	5.4	3.5
Illinois	76.0	30.4
Michigan	10.5	6.4
Wisconsin	10.2	1.8
West North Central Division:		
Minnesota	9.9	5.2
Missouri	18.2	7.9
Kansas	5.6	(NA)
South Atlantic Division:		
Maryland	4.2	1.0
District of Columbia	6.1	2.1
Virginia	4.2	2.2
North Carolina	2.9	1.1
Georgia	2.4	(NA)
Florida	12.4	2.4
East South Central Division:		
Tennessee	7.5	CC
West South Central Division:		
Texas	14.3	2.2
Mountain Division:		
Colorado	2.3	(NA)
Arizona	2.1	(NA)
Pacific Division:		
Washington	3.4	(NA)
Oregon	2.2	(NA)
California	46.7	11.2
Hawaii	2.4	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. **Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2771-	Greeting card publishing	765.2	684.6	661.7	715.3	639.7	583.5	441.4	310.2
27711	Greeting cards, publishers' sales	694.3	643.0	602.7	647.7	560.4	510.8	381.4	262.8
27712	Greeting cards, printed for publication by others	39.6	(27.1)	(41.7)	54.3	59.9	48.8	44.0	39.9
27710	Greeting card publishing, n.s.k	31.3	(14.5)	(17.3)	(13.3)	19.4	23.9	16.0	7.5
2782-	Blankbooks and looseleaf binders	1,039.5	824.7	729.3	681.1	619.3	571.3	362.3	252.0
27821	Blankbook making	605.7	477.6	436.0	380.6	338.6	320.1	186.8	124.3
27822	Looseleaf binders and devices	346.3	315.0	267.4	269.1	261.4	209.9	153.8	119.6
27820	Blankbooks and looseleaf binders, n.s.k	87.5	(32.0)	(25.9)	(31.4)	19.3	41.3	21.7	8.1
2789-	Bookbinding and related work	508.0	437.9	424.0	432.6	393.4	369.2	337.5	243.2
27891	Edition, library, and other hard cover bookbinding	172.3	(188.1)	186.7	181.2	148.1	147.6	167.4	109.3
27892	Other book, pamphlet, and related binding work	253.3	(208.9)	201.7	217.9	195.4	164.8	135.4	117.6
27890	Bookbinding and related work, n.s.k	82.4	(41.0)	(35.6)	(33.5)	49.9	56.9	34.7	16.3
27910	Typesetting	781.5	543.5	494.4	515.5	542.1	508.7	362.1	249.6
27930	Photoengraving plates made for others	223.5	(306.1)	263.0	232.6	236.0	221.3	237.1	214.7
27940	Electrotyping and stereotyping duplicate plates	15.6	(25.9)	(24.6)	(21.8)	33.8	35.5	61.4	71.9
2795-	Lithographic platemaking services	630.7	462.7	402.1	391.1	308.3	263.0	151.2	129.5
27951	Lithographic plates	183.6	(S)	(S)	(S)	150.1	112.3	(NA)	(NA)
27952	Lithographic platemaking services	403.3	(S)	(S)	(S)	158.2	131.6	(NA)	(NA)
27950	Lithographic platemaking services, n.s.k	43.8	(2)	(2)	(2)	-	19.1	(NA)	(NA)

- Represents zero. (NA) Not available. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	1977, delivered cost (million dollars)	1972, delivered cost (million dollars)
	INDUSTRY 2771, GREETING CARD PUBLISHING		
	Materials and supplies	220.5	203.0
262131	Coated paper, all types	52.8	
	Uncoated papers:		
272102	Groundwood, book, bond, writing, ledger, and manifold	46.7	
262150	Bristols, cover, text, and other specialty uncoated paper	4.0	
289301	Printing inks (complete formulations)	6.6	
265001	Paperboard boxes and containers	15.2	
264200	Purchased envelopes	15.6	(S)
386153	Unexposed lithographic plates (presensitized)	1.2	
386101	Light sensitive film and papers	2.6	
386181	Photographic developers and chemicals used in plate preparation	.4	
970099	All other materials and components, parts, containers, and supplies	58.0	
971000	Materials, containers, and supplies, n.s.k.[1]	17.4	
	INDUSTRY 2782, BLANKBOOKS AND LOOSELEAF BINDERS		
	Materials, parts, and supplies	368.1	188.2
262100	Paper (newsprint, book, bond, cover, coated, tissue, groundwood, ledger, writing, file folder, and tag stock)	113.0	68.9
263105	Paperboard (news, chip, pasted, tablet, check, binders board), excluding that used for shipping	24.6	16.9
229507	Coated or impregnated woven and nonwoven fabric, except rubberized	13.2	8.0
278227	Metal looseleaf components, excluding sheet lifters	22.2	15.0
307909	Plastics looseleaf components, excluding sheet lifters	5.9	(2)
307908	Plastics products consumed in the form of sheets, rods, tubes, and other shapes, excluding looseleaf components	14.4	15.1
331094	Steel, strip, and wire	13.2	4.4
970099	All other materials and components, parts, containers, and supplies	83.1	2 39.1
971000	Materials, parts, and supplies, n.s.k.[1]	78.5	20.8
	INDUSTRY 2789, BOOKBINDING AND RELATED WORK		
	Materials, parts, and supplies	103.1	66.6
262100	Paper (newsprint, book, bond, cover, coated, tissue, groundwood, ledger, writing, file folder, and tag stock)	13.9	11.8
263105	Paperboard (news, chip, pasted, tablet, check, binders board), excluding that used for shipping	15.2	9.7
229507	Coated or impregnated woven and nonwoven fabric, except rubberized	10.2	8.4
278227	Metal looseleaf components, excluding sheet lifters	1.3	1.4
307909	Plastics looseleaf components, excluding sheet lifters	.6	(2)
307908	Plastics products consumed in the form of sheets, rods, tubes, and other shapes, but excluding looseleaf components	1.5	1.2
331094	Steel strip and wire	2.2	1.3
970099	All other materials and components, parts, containers, and supplies	27.3	2 15.2
971000	Materials, parts, and supplies, n.s.k.[1]	30.9	17.6
	INDUSTRY 2791, TYPESETTING		
	Materials, parts, and supplies	84.5	41.3
279511	Lithographic plates, including multimetal, not presensitized	.1	
330005	Metal for printing plates	.4	
386154	Photographic plates and slides	.6	
386101	Light sensitive films and papers	12.1	
386153	Unexposed presensitized lithographic plates	.2	41.3
386181	Photographic developers and chemicals used in plate preparation	2.2	
970099	All other materials and components, parts, containers, and supplies	17.7	
971000	Materials, parts, and supplies, n.s.k.[1]	51.2	
	INDUSTRY 2793, PHOTOENGRAVING		
	Materials, parts, and supplies	42.4	37.1
279511	Lithographic plates, including multimetal, not presensitized	(3)	
330005	Metal for printing plates	3.0	
386154	Photographic plates and slides	(3)	
386101	Light sensitive films and papers	4.6	37.1
386153	Unexposed presensitized lithographic plates	1.2	
386181	Photographic developers and chemicals used in plate preparation	3.0	
970099	All other materials and components, parts, containers, and supplies	3 5.7	
971000	Materials, parts, and supplies, n.s.k.[1]	24.9	

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	1977, delivered cost (million dollars)	1972, delivered cost (million dollars)
	INDUSTRY 2794, ELECTROTYPING AND STEREOTYPING		
	Materials, parts, and supplies	3.2	5.8
330005	Metal for printing plates	.9	
386154	Photographic plates and slides		
386101	Light sensitive films and papers	.4	
386181	Photographic developers and chemicals used in plate preparation		5.8
970099	All other materials and components, parts, containers, and supplies	.5	
971000	Materials, parts, and supplies, n.s.k.[1]	1.4	
	INDUSTRY 2795, LITHOGRAPHIC PLATEMAKING SERVICES		
	Materials, parts, and supplies	169.8	64.1
279511	Lithographic plates, including multimetal, not presensitized	6.5	
330005	Metal for printing plates	31.6	
386154	Photographic plates and slides	.6	
386101	Light sensitive films and papers	31.0	
386153	Unexposed presensitized lithographic plates	7.0	64.1
386181	Photographic developers and chemicals used in plate preparation	9.6	
970099	All other materials and components, parts, containers, and supplies	37.3	
971000	Materials, parts, and supplies, n.s.k.[1]	46.2	

n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.
[1]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.
[2]For 1972, material code 307909 was combined with material code 970099.
[3]For 1977, material codes 279511 and 386154 were included in material code 970099.

Industrial Inorganic Chemicals

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DESCRIPTION OF INDUSTRIES

INDUSTRIAL INORGANIC CHEMICALS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title	
2812	Alkalies and Chlorine
2813	Industrial Gases
2816	Inorganic Pigments
2819	Industrial Inorganic Chemicals, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.) This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2812, ALKALIES AND CHLORINE

This industry comprises establishments primarily engaged in the manufacture of alkalies and chlorine.

The total value of shipments for establishments classified in the Alkalies and Chlorine industry amounted to $1,655 million in 1977, an increase of 101 percent from 1972. The value of shipments of products classified as primary to the industry was $1,787 million, an increase of 122 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were chlorine, compressed or liquefied, for which shipments increased 147 percent, and sodium hydroxide (caustic soda), for which shipments increased 143 percent. Value added by manufacture, at $824 million in 1977, was 81 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 11.8 thousand employees, a decrease of 11 percent from 1972. The leading States in employment were Michigan, New York, Texas, and Louisiana, accounting for approximately 60 percent of the industry's 1977 employment. Data for Michigan, Texas, and New York have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of alkalies and chlorine only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of alkalies and chlorine are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-28A, Inorganic Chemicals. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 2813, INDUSTRIAL GASES

This industry comprises establishments primarily engaged in the manufacture of gases for sale in compressed, liquid, and solid forms. Establishments primarily engaged in the manufacture of fluorine and sulfur dioxide are classified in industry 2819, household ammonia in industry 2842, other ammonia in industry 2873, and chlorine in industry 2812. Distributors of industrial gases and establishments primarily engaged in shipping liquid oxygen are classified in trade industries.

The total value of shipments for establishments classified in the Industrial Gases industry amounted to $1,235 million in 1977, an increase of 82 percent from 1972. The value of shipments of products classified as primary to the industry was $1,199 million, an increase of 82 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $733 million in 1977, was 57 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.5 thousand employees, a decrease of 22 percent from 1972. The leading States in employment

were California, Pennsylvania, and Texas, accounting for approximately 40 percent of the industry's 1977 employment. Data for Pennsylvania and Texas have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of industrial gases only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of industrial gases are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-28C, Industrial Gases. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 2816, INORGANIC PIGMENTS

This industry comprises establishments primarily engaged in the manufacture of inorganic pigments. Important products of this industry include black pigments (except carbon black, channel and furnace processes, which are classified in industry 2895), white pigments, and color pigments. Establishments primarily engaged in the manufacture of organic color pigments, except animal black and bone black, are classified in industry 2865.

The total value of shipments for establishmnts classified in the Inorganic Pigments industry amounted to $1,260 million in 1977, an increase of 58 percent from 1972. The value of shipments of products classified as primary to the industry was $1,280 million, an increase of 69 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were titanium pigments, for which shipments increased 76 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $568 million in 1977, was 48 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 11.9 thousand employees, a decrease of 7 percent from 1972. The leading States in employment were Pennsylvania, Ohio, New Jersey, and Michigan, accounting for approximately 45 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of titanium dioxide pigments and chrome colors only at product group levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of these products are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-28A, Inorganic Chemicals. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMICALS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of industrial inorganic chemicals, not elsewhere classified. Important products of this industry include inorganic salts of sodium (excluding refined sodium chloride), potassium, aluminum, calcium, chromium, magnesium, mercury, nickel, silver, tin; inorganic compounds such as alums, calcium carbide, hydrogen peroxide, sodium silicate, ammonia compounds (except fertilizers), rare earth metal salts and elemental bromine, fluorine, iodine, phosphorus, and alkali metals (sodium, potassium, lithium, etc.). Establishments primarily engaged in mining, milling, or otherwise preparing natural potassium, sodium, or boron compounds (other than common salt) are classified in Industry 1474, Potash, Soda, and Borate Minerals. Establishments primarily engaged in the manufacture of household bleaches are classified in Industry 2842, Polishes and Sanitation Goods; phosphoric acid in Industry 2874, Phosphatic Fertilizers; and nitric acid, anhydrous ammonia, and other nitrogenous fertilizer materials in Industry 2873, Nitrogenous Fertilizers.

Beginning with 1954, statistics include information for government-owned, contractor-operated (GOCO) establishments, but exclude the activities of government-owned and/or operated plants. General statistics are shown for all plants (private and government) in table 1A, and for privately owned and operated plants only, in table 1C. Data for all materials consumed except fuels and electric energy, as well as data for fixed assets, capital expenditures and inventories, are excluded for the GOCO plants because these are paid for by current billings to the United States Government. Value of shipments and value added by manufacture have been estimated for the GOCO plants from averages reported for commercial establishments in prior years.

The total value of shipments for establishments classified in the Industrial Inorganic Chemicals, N.E.C. industry amounted to $8,616 million in 1977, an increase of 125 percent from 1972. The value of shipments of products classified as primary to the industry was $6,920 million, an increase of 130 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $4,333 million in 1977, was 113 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 78.2 thousand employees, an increase of 23 percent from 1972. The leading States in employ-

ment were Tennessee, South Carolina, Ohio, and California, accounting for approximately 45 percent of the industry's 1977 employment. Data for South Carolina have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of industrial inorganic chemicals, n.e.c. only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of industrial inorganic chemicals, n.e.c. are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-28A, Inorganic Chemicals. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2812, ALKALIES AND CHLORINE																
1977 Census..	30	49	33	11.8	215.9	8.0	16.0	136.2	823.5	825.9	1 655.0	186.5	(NA)	141.8	63	58
1976 ASM.....	(NA)	(NA)	(NA)	13.3	209.2	8.8	17.9	133.6	960.4	852.7	1 797.7	222.8	1 792.5	156.4	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	14.1	203.5	9.8	19.9	133.1	897.9	749.5	1 633.2	183.4	1 724.4	133.6	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	13.7	182.5	9.9	19.9	123.4	697.8	601.0	1 282.4	163.7	1 481.8	110.7	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	13.3	164.6	9.7	19.5	111.8	463.0	416.0	884.0	67.9	1 364.0	63.1	(NA)	(NA)
1972 Census..	28	48	39	13.3	152.0	9.6	18.9	102.6	455.6	365.5	823.2	61.5	1 302.0	60.4	65	65
1971 ASM.....	(NA)	(NA)	(NA)	13.7	142.4	9.9	19.6	96.1	360.3	313.7	675.9	45.2	1 165.4	67.3	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	14.7	141.3	10.5	21.4	93.5	362.0	299.6	660.3	51.0	1 158.9	67.6	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	15.9	143.0	11.2	23.0	92.6	377.9	310.2	687.9	121.6	1 233.1	64.5	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	16.9	140.7	11.8	23.8	90.1	372.4	286.2	664.9	90.2	1 193.8	61.9	(NA)	(NA)
1967 Census..	19	44	40	19.2	155.7	12.8	25.5	94.4	419.2	302.0	719.8	98.0	1 185.6	71.4	67	75
1966 ASM.....	(NA)	(NA)	(NA)	19.9	154.0	13.4	27.5	97.8	467.0	319.6	782.7	81.2	(NA)	69.2	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	20.0	148.2	13.5	26.8	92.1	442.8	291.4	735.4	57.7	(NA)	65.3	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	19.9	145.3	13.8	28.1	92.3	436.0	276.2	711.6	49.4	1 083.8	66.0	(NA)	(NA)
1963 Census..	19	38	37	19.7	138.2	13.5	27.6	88.1	389.2	263.6	652.1	57.5	1 046.7	64.3	66	79
INDUSTRY 2813, INDUSTRIAL GASES																
1977 Census..	109	562	102	7.5	117.2	4.6	9.6	67.0	732.8	515.9	1 234.6	243.0	(NA)	45.6	97	93
1976 ASM.....	(NA)	(NA)	(NA)	8.0	106.6	4.9	10.1	64.6	644.7	482.2	1 132.1	122.4	1 454.6	32.6	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	8.9	108.6	5.2	10.4	63.4	586.1	403.5	985.3	119.2	1 347.4	39.6	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	8.5	93.6	5.2	10.7	55.8	544.0	301.7	843.2	92.1	1 180.0	32.2	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	8.6	92.1	5.7	11.8	60.2	512.8	253.5	765.4	49.0	1 172.7	32.0	(NA)	(NA)
1972 Census..	106	503	138	9.6	87.2	5.4	10.6	48.3	466.7	214.9	679.3	84.1	1 194.3	32.7	96	92
1971 ASM.....	(NA)	(NA)	(NA)	9.1	80.3	4.9	10.0	42.3	478.5	186.7	665.3	57.6	1 004.2	27.1	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	9.6	83.5	5.1	10.6	42.8	516.8	198.9	716.1	60.8	999.7	27.7	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	9.5	80.2	5.0	10.5	37.5	500.1	196.7	696.8	57.1	944.9	26.5	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	9.9	82.9	5.0	10.6	38.5	498.2	192.2	668.3	72.2	967.8	25.2	(NA)	(NA)
1967 Census..	113	507	156	10.3	78.5	5.3	11.1	36.6	400.9	188.8	588.7	123.7	932.0	21.2	96	89
1966 ASM.....	(NA)	(NA)	(NA)	9.9	74.6	4.9	10.5	34.5	363.1	190.4	549.7	97.0	(NA)	18.3	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	10.1	72.2	5.3	11.2	35.2	346.7	194.2	540.0	63.8	(NA)	16.9	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	10.2	72.7	5.6	11.7	37.2	309.0	199.5	507.3	73.4	693.6	16.3	(NA)	(NA)
1963 Census..	104	456	146	9.8	66.6	5.3	11.1	33.5	260.2	164.4	425.4	93.5	618.1	15.3	98	87
INDUSTRY 2816, INORGANIC PIGMENTS																
1977 Census..	71	106	66	11.9	179.8	8.0	16.4	110.2	567.9	695.9	1 259.9	124.3	(NA)	251.5	88	84
1976 ASM.....	(NA)	(NA)	(NA)	12.9	181.1	8.6	17.5	107.1	584.9	713.2	1 292.5	76.9	911.4	277.9	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	12.4	164.1	8.3	16.9	101.6	468.4	548.8	988.9	76.6	870.3	271.3	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	15.6	184.7	11.0	23.0	121.0	590.9	641.9	1 188.6	117.9	870.1	227.5	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	13.2	150.5	9.6	20.2	101.5	419.3	461.9	890.2	79.1	694.2	135.8	(NA)	(NA)
1972 Census..	77	114	69	12.8	134.6	9.0	18.3	87.8	382.6	394.9	796.9	38.9	619.9	137.4	86	86
1971 ASM.....	(NA)	(NA)	(NA)	13.1	131.4	9.1	18.9	85.0	332.3	333.8	666.0	38.8	641.4	156.7	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	13.7	126.0	9.6	19.6	82.7	337.0	318.9	646.3	49.1	610.3	145.7	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	13.4	116.8	9.6	19.4	77.6	367.4	299.5	657.7	49.8	589.9	129.7	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	13.0	105.0	9.3	18.5	69.3	356.1	270.9	624.0	15.9	546.8	116.7	(NA)	(NA)
1967 Census..	65	98	60	12.6	97.2	8.9	17.7	63.2	316.3	235.0	549.3	20.8	504.1	108.6	90	84
1966 ASM.....	(NA)	(NA)	(NA)	12.7	96.2	9.0	18.2	63.5	339.9	247.6	581.8	17.2	(NA)	112.8	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	12.4	88.5	8.8	17.4	57.5	331.3	226.5	553.6	48.5	(NA)	103.9	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	12.3	88.4	8.7	17.7	58.7	334.9	216.2	548.1	43.4	402.7	93.6	(NA)	(NA)
1963 Census..	69	96	49	11.5	76.4	8.1	16.2	49.9	286.4	194.2	484.8	17.4	376.7	86.6	91	87
INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMICALS, N.E.C.[3]																
1977 Census..	346	564	288	78.2	1 326.7	47.0	96.2	717.9	4 333.1	4 344.0	8 615.7	466.4	(NA)	858.4	87	77
1976 ASM.....	(NA)	(NA)	(NA)	74.6	1 186.8	43.7	87.8	615.8	3 974.7	3 475.6	7 388.5	391.1	3 462.9	753.4	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	73.7	1 061.2	43.5	85.8	555.4	3 260.5	2 844.0	6 053.4	341.8	3 200.8	685.9	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	68.5	897.0	42.4	84.8	491.9	2 904.4	2 723.6	5 534.9	254.7	2 964.6	621.3	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	64.6	761.7	40.1	80.1	418.9	2 334.9	1 926.2	4 233.8	176.6	2 627.6	417.4	(NA)	(NA)
1972 Census..	166	384	264	63.8	704.7	39.9	80.0	392.4	2 038.2	1 804.1	3 833.3	149.0	2 563.3	384.1	89	79

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2812, ALKALIES AND CHLORINE										
1977 Census..	18 293	(NA)	67	2 009	8.51	49	62	(NA)	69 769	26	51.48
1976 ASM.....	15 729	134 774	66	2 034	7.46	47	59	99	72 210	21	53.65
1975 ASM.....	14 432	122 297	69	2 030	6.68	45	58	105	63 680	22	45.12
1974 ASM.....	13 321	108 160	72	2 010	6.20	46	61	115	50 934	26	35.06
1973 ASM.....	12 375	102 556	72	2 010	5.73	47	65	154	34 812	35	23.74
1972 Census..	11 428	97 894	72	1 968	5.42	44	62	158	34 255	33	24.10
1971 ASM.....	10 394	85 065	72	1 979	4.90	46	67	172	26 299	39	18.38
1970 ASM.....	9 612	78 836	71	2 038	4.36	45	66	175	24 625	39	16.91
1969 ASM.....	8 993	77 553	70	2 053	4.02	45	65	179	23 767	37	16.43
1968 ASM.....	8 325	70 639	69	2 016	3.78	43	64	179	22 035	37	15.64
1967 Census..	8 109	61 750	66	1 992	3.70	41	63	164	21 833	37	16.43
1966 ASM.....	7 738	(NA)	67	2 052	3.55	40	60	(NA)	23 467	32	16.98
1965 ASM.....	7 410	(NA)	67	1 985	3.43	39	59	(NA)	22 140	33	16.52
1964 ASM.....	7 301	54 462	69	2 036	3.28	38	59	152	21 909	33	15.51
1963 Census..	7 015	53 131	68	2 044	3.19	40	61	160	19 756	35	14.10
	INDUSTRY 2813, INDUSTRIAL GASES										
1977 Census..	15 646	(NA)	61	2 069	7.00	41	51	(NA)	97 821	15	76.63
1976 ASM.....	13 325	181 825	61	2 061	6.39	42	52	128	80 587	16	63.83
1975 ASM.....	12 202	151 393	58	2 000	6.09	40	51	136	65 853	18	56.35
1974 ASM.....	11 011	138 823	61	2 057	5.21	35	46	139	64 000	17	50.84
1973 ASM.....	10 709	136 360	66	2 070	5.10	33	45	153	59 627	17	43.45
1972 Census..	9 083	124 406	56	1 962	4.55	31	44	175	48 614	18	44.02
1971 ASM.....	8 824	110 351	53	2 040	4.23	28	40	150	52 582	16	47.85
1970 ASM.....	8 697	104 135	53	2 078	4.03	27	39	139	53 833	16	48.75
1969 ASM.....	8 442	99 463	52	2 100	3.57	28	39	135	52 642	16	47.62
1968 ASM.....	8 373	97 757	50	2 120	3.63	28	41	144	50 323	16	47.00
1967 Census..	7 621	90 485	51	2 094	3.29	32	45	158	38 922	19	36.11
1966 ASM.....	7 535	(NA)	49	2 142	3.28	34	48	(NA)	36 676	20	34.58
1965 ASM.....	7 148	(NA)	52	2 113	3.14	35	49	(NA)	34 326	20	30.95
1964 ASM.....	7 127	68 000	54	2 089	3.17	39	53	136	30 294	23	26.41
1963 Census..	6 795	63 071	54	2 094	3.01	38	54	145	26 551	25	23.44
	INDUSTRY 2816, INORGANIC PIGMENTS										
1977 Census..	15 098	(NA)	66	2 057	6.72	55	69	(NA)	47 681	31	34.66
1976 ASM.....	14 038	70 651	66	2 034	6.12	55	69	70	45 341	30	33.42
1975 ASM.....	13 233	70 185	66	2 036	6.01	55	72	88	37 774	35	27.71
1974 ASM.....	11 839	55 775	70	2 090	5.26	54	69	73	37 878	31	25.69
1973 ASM.....	11 401	52 590	72	2 104	5.02	51	68	77	31 765	35	20.75
1972 Census..	10 515	48 429	70	2 033	4.79	49	66	77	29 890	35	20.90
1971 ASM.....	10 030	48 961	69	2 076	4.49	50	69	96	25 366	39	17.58
1970 ASM.....	9 197	44 547	70	2 041	4.21	49	68	94	24 598	37	17.19
1969 ASM.....	8 716	44 022	71	2 020	4.00	45	63	89	27 417	31	18.93
1968 ASM.....	8 076	42 061	71	1 989	3.74	43	60	87	27 392	29	19.24
1967 Census..	7 714	40 007	70	1 988	3.57	42	60	91	25 103	30	17.87
1966 ASM.....	7 574	(NA)	70	2 022	3.48	42	59	(NA)	26 763	28	18.67
1965 ASM.....	7 137	(NA)	70	1 977	3.30	40	56	(NA)	26 717	26	19.04
1964 ASM.....	7 186	32 739	70	2 034	3.31	39	55	73	27 227	26	18.92
1963 Census..	6 643	32 756	70	2 000	3.08	40	55	77	24 904	26	17.67
	INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMICALS, N.E.C.										
1977 Census..	16 966	(NA)	60	2 044	7.46	50	65	(NA)	55 413	30	45.04
1976 ASM.....	15 908	46 419	58	2 009	7.01	47	63	46	53 280	29	45.26
1975 ASM.....	14 398	43 430	59	1 972	6.47	46	64	52	44 240	32	38.00
1974 ASM.....	13 094	43 278	61	2 000	5.80	49	65	53	42 400	30	34.25
1973 ASM.....	11 791	40 674	62	1 997	5.22	45	63	62	36 143	32	29.14
1972 Census..	11 045	40 177	62	2 005	4.90	47	65	66	31 943	34	25.47

Note: For qualifications to data, see footnotes on table 1a.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 1c. Statistics for Privately Owned and Operated Establishments: 1977 and 1972

(For explanation of terms, see appendix A)

Year[1]	Companies (no.)	All establishments		All employees		Production workers			Value added by manufacture[2] (mil. dol.)	Cost of materials[3] (mil. dol.)	Value of shipments[4] (mil. dol.)	Expenditures and assets[5]		End-of-year inventories[5] (mil. dol.)	Ratios[6]	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (mil.)	Wages (mil. dol.)				New capital expenditures (mil. dol.)	Gross value of fixed assets (mil. dol.)		Specialization (percent)	Coverage (percent)
	INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMICALS, N.E.C. (TOTAL)[7]															
1977 Census..	346	564	288	78.2	1,326.7	47.0	96.2	717.9	4,333.1	4,344.0	8,615.7	466.4	(NA)	858.4	87	77
1972 Census..	166	384	264	63.8	704.7	39.9	80.0	392.4	2,038.2	1,804.1	3,833.3	149.0	2,563.3	384.1	89	79
	INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMCIALS, N.E.C. (PRIVATELY OWNED OPERATED ESTABLISHMENTS ONLY)															
1977 Census..	339	554	278	49.1	827.8	31.8	65.0	488.3	2,778.4	3,696.8	6,427.9	466.4	(NA)	858.4	87	77
1972 Census..	(NA)	371	252	39.7	426.5	27.0	54.6	262.2	1,260.3	1,549.4	2,800.7	149.0	2,563.3	384.1	89	79

(NA) Not available. N.E.C. Not elsewhere classified.

[1]This industry was redefined for 1972 Census of Manufactures, so no data prior to 1972 exist.

[2]Value added for government-owned, contractor-operated plants, included in total, was estimated based upon averages reported for commercial establishments in prior years.

[3]Total data exclude government-owned materials furnished to government-owned, contractor-operated plants, and include fuels and electric energy purchased by or for these plants.

[4]Total data include a calculated value of shipments for government-owned, contractor-operated plants, comprised of adjusted value added (estimated as described in footnote 3) plus cost of fuels and electric energy.

[5]Total excludes expenditures, inventories, and fixed assets of government-owned, contractor-operated plants.

[6]Ratio excludes government-owned, contractor-operated establishments because their dollar receipts were included in miscellaneous receipts. See appendix B for discussion of calculation of specialization and coverage ratios.

[7]Includes both privately owned and operated plants and government-owned, contractor-operated plants.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2812, ALKALIES AND CHLORINE													
United States	-	**49**	**33**	**11.8**	**215.9**	**8.0**	**16.0**	**136.2**	**823.5**	**825.9**	**1 655.0**	**186.5**	**13.3**	**455.6**
Middle Atlantic Division:													
New York	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Jersey	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Michigan	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West North Central Division:														
Kansas	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
West Virginia	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Georgia	-	3	3	0.3	4.9	0.2	0.4	3.2	30.4	26.4	56.7	(D)	0.3	12.4
East South Central Division:														
Alabama	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Louisiana	-	4	4	1.4	26.9	0.8	1.6	15.1	179.2	172.1	348.7	(D)	EE	(D)
Texas	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mountain Division:														
Wyoming	E3	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Nevada	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
Washington	-	3	3	0.5	7.4	0.3	0.6	5.4	58.8	26.7	85.2	5.1	BB	(D)
Oregon	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
INDUSTRY 2813, INDUSTRIAL GASES														
United States	-	**562**	**102**	**7.5**	**117.2**	**4.6**	**9.6**	**67.0**	**732.8**	**515.9**	**1 234.6**	**243.0**	**9.6**	**466.7**
Middle Atlantic Division:														
New York	-	17	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
New Jersey	E2	23	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pennsylvania	-	39	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East North Central Division:														
Ohio	-	46	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	40.8
Indiana	-	16	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Illinois	-	23	5	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	20.0
West North Central Division:														
Missouri	-	10	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	-	10	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	38.5
South Atlantic Division:														
West Virginia	-	15	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	20.8
East South Central Division:														
Tennessee	-	22	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Alabama	-	14	4	0.2	3.6	0.1	0.2	1.7	23.1	13.6	36.4	(D)	BB	(D)
West South Central Division:														
Louisiana	-	19	5	0.3	4.8	0.2	0.4	2.6	54.0	26.0	79.8	(D)	0.3	20.0
Texas	-	51	11	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pacific Division:														
California	E1	46	11	1.0	14.7	0.6	1.2	7.8	55.8	57.7	113.2	20.1	EE	(D)
INDUSTRY 2816, INORGANIC PIGMENTS														
United States	-	**106**	**66**	**11.9**	**179.8**	**8.0**	**16.4**	**110.2**	**567.9**	**695.9**	**1 259.9**	**124.3**	**12.8**	**382.6**
Middle Atlantic Division:														
New York	-	7	4	1.0	16.5	0.8	1.6	11.5	51.1	59.5	106.7	(D)	1.3	31.3
New Jersey	-	18	10	1.1	13.9	0.8	1.5	8.9	44.1	50.2	89.1	2.2	2.1	64.2
Pennsylvania	-	11	9	1.5	20.7	1.0	1.9	12.8	66.8	79.3	144.2	9.0	1.5	47.4
East North Central Division:														
Ohio	-	11	6	1.4	22.1	0.8	1.7	11.9	40.4	83.1	126.4	4.5	CC	(D)
Illinois	-	8	6	0.8	10.7	0.6	1.1	7.1	27.3	40.4	67.2	3.9	CC	(D)
West North Central Division:														
Missouri	-	5	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Atlantic Division:														
Delaware	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Maryland	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Georgia	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	28.1
East South Central Division:														
Tennessee	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Mississippi	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California	-	11	6	0.6	8.5	0.4	0.9	4.2	30.6	25.8	54.7	(D)	CC	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMICALS, N.E.C.														
United States	-	**564**	**288**	**78.2**	**1 326.7**	**47.0**	**96.2**	**717.9**	**4 333.1**	**4 344.0**	**8 615.7**	**466.4**	**63.8**	**2 038.2**
New England Division:														
Massachusetts	-	18	5	1.1	17.4	0.7	1.6	9.0	63.6	27.6	89.7	(D)	EE	(D)
Connecticut	-	5	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	28	13	1.9	34.3	1.3	2.7	21.3	136.7	107.7	244.5	33.1	1.7	58.7
New Jersey	-	35	24	2.9	47.4	1.7	3.8	26.6	174.4	312.5	479.6	18.2	3.5	111.4
Pennsylvania	-	29	20	3.5	57.4	2.1	5.2	32.6	206.1	355.0	559.1	21.7	3.4	113.8
East North Central Division:														
Ohio	-	37	17	5.8	92.3	3.6	7.0	52.2	294.1	335.9	630.3	9.4	4.5	124.4
Indiana	-	14	6	0.6	9.7	0.4	0.9	6.5	30.6	70.9	101.2	(D)	0.4	16.6
Illinois	-	27	14	2.4	41.7	1.7	3.7	28.6	149.3	165.5	315.4	14.1	2.5	77.2
Michigan	-	14	6	1.4	25.4	1.0	2.0	15.0	93.3	122.2	213.6	(D)	EE	(D)
West North Central Division:														
Missouri	-	9	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Kansas	-	6	4	0.5	7.6	0.4	0.8	4.8	35.1	45.1	80.7	(D)	BB	(D)
South Atlantic Division:														
Delaware	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Maryland	-	10	7	1.5	25.0	1.0	2.1	15.4	86.1	68.3	152.5	7.9	1.5	34.8
Virginia	-	11	5	2.9	47.4	1.7	3.7	26.5	157.7	41.5	196.5	(D)	EE	(D)
North Carolina	-	11	5	0.6	9.2	0.5	1.0	6.9	51.6	55.6	108.3	3.7	0.7	15.6
South Carolina	-	9	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Georgia	-	18	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	13.6
Florida	-	15	10	0.7	10.8	0.5	0.9	6.3	24.6	80.5	102.9	(D)	BB	(D)
East South Central Division:														
Kentucky	-	8	7	3.6	53.5	2.4	5.0	34.3	181.8	294.3	476.7	(D)	EE	(D)
Tennessee	-	21	18	16.6	261.1	9.6	18.9	131.9	876.5	526.0	1 399.9	55.5	11.3	388.4
Alabama	-	12	5	1.4	25.6	0.9	2.0	16.2	68.6	135.7	200.8	(D)	1.2	44.6
West South Central Division:														
Arkansas	-	12	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Louisiana	-	20	12	2.8	51.3	2.0	4.0	37.0	135.5	306.0	437.1	31.7	FF	(D)
Oklahoma	-	7	5	0.3	3.9	0.2	0.3	2.1	17.7	14.4	32.9	(D)	0.5	13.0
Texas	-	45	21	3.8	67.0	2.7	5.3	44.9	194.2	416.4	596.0	45.8	3.2	103.5
Mountain Division:														
Montana	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Idaho	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Colorado	-	9	3	0.2	2.6	0.1	0.3	1.8	10.9	11.0	20.6	(D)	(NA)	(NA)
Nevada	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
Washington	-	12	6	3.7	72.1	1.7	3.8	29.2	197.2	16.6	213.2	(D)	FF	(D)
California	-	60	32	4.2	83.6	1.7	3.3	26.7	197.8	224.2	424.3	19.0	1.4	50.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Alkalies and chlorine (SIC 2812)	Industrial gases (SIC 2813)	Inorganic pigments (SIC 2816)	Industrial inorganic chemicals, n.e.c (SIC 2819)
Primary product specialization ratio[1]	percent	83	97	88	87
Coverage ratio[2]	do	58	93	84	77
All establishments	number	49	562	105	564
With 1 to 19 employees	do	16	460	40	276
With 20 to 99 employees	do	11	89	37	174
With 100 employees or more	do	22	13	29	114
All employees, average for year	1,000	11.8	7.5	11.9	78.2
Payroll for year, all employees	mil. dol.	215.9	117.2	179.8	1 326.7
Production workers:					
Average for year	1,000	8.0	4.6	8.0	47.0
March	do	7.7	4.6	7.7	46.7
May	do	7.8	4.6	7.9	47.3
August	do	8.3	4.7	8.2	47.0
November	do	8.0	4.6	7.9	47.1
Hours	millions	16.0	9.6	16.4	96.2
January to March	do	3.9	2.4	4.1	24.0
April to June	do	4.0	2.4	4.2	23.9
July to September	do	4.1	2.4	4.1	24.0
October to December	do	4.1	2.4	4.0	24.4
Wages	mil. dol.	136.2	67.0	110.2	717.9
Cost of materials, etc.	do	825.9	515.9	695.9	4 344.0
Materials, parts, containers, etc., consumed	do	436.1	168.8	561.0	2 988.9
Resales	do	6.4	43.8	21.2	169.6
Fuels consumed	do	143.6	46.2	75.3	324.6
Purchased electric energy	do	183.2	255.8	33.5	814.1
Contract work	do	56.6	1.2	4.9	46.9
Value of shipments, including resales	do	1 655.0	1 234.6	1 259.9	8 615.7
Value of resales	do	9.4	68.3	30.0	200.5
Value added by manufacture	do	823.5	732.8	567.9	4 333.1
Manufacturers' inventories:					
Beginning of year	do	132.4	27.8	240.7	751.3
Finished products	do	56.2	20.7	111.1	241.7
Work in process	do	1.3	1.9	22.5	149.6
Materials, supplies, fuel, etc.	do	74.9	5.2	107.1	360.0
End of year	do	141.8	45.6	251.5	858.4
Finished products	do	50.5	32.5	113.5	280.1
Work in process	do	1.4	4.1	24.1	172.6
Materials, supplies, fuel, etc.	do	89.8	8.9	113.9	405.7
Capital expenditures for plant and equipment	do	186.9	264.1	125.3	472.2
New capital expenditures	do	186.5	243.0	124.3	456.4
New buildings and other structures	do	17.3	23.2	11.7	81.4
New machinery and equipment	do	169.2	219.8	112.5	385.1
Used capital expenditures	do	0.3	21.1	1.0	5.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Alkalies and chlorine (SIC 2812)		Industrial gases (SIC 2813)		Inorganic pigments (SIC 2816)		Industrial inorganic chemicals, n.e.c. (SIC 2819)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	5.2	1	0.7	7	4.5	3	15.3	4
Response coverage ratio[2] (percent)	.79	(X)	.67	(X)	.66	(X)	.66	(X)
Machinery	26.2	1	21.7	2	17.9	5	71.4	7
Response coverage ratio[2] (percent)	.75	(X)	.69	(X)	.60	(X)	.68	(X)
Cost of purchased communication services	(3.0)	15	(5.1)	46	2.9	6	10.5	4
Response coverage ratio[2] (percent)	.81	(X)	.63	(X)	.69	(X)	.66	(X)
Rental payments	20.7	3	16.5	6	4.8	6	25.3	3
Buildings and other structures	1.3	6	1.7	5	(1.8)	15	4.3	9
Machinery and equipment	19.3	3	14.8	6	2.9	3	21.0	3
Supplemental labor costs	49.3	1	24.3	1	43.4	1	313.3	1
Legal costs	18.4	2	8.6	1	14.4	1	96.2	1
Voluntary costs	30.8	1	15.7	1	29.0	2	217.1	1
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	215.3	1	140.1	6	153.5	2	709.7	1
New capital expenditures	22.0	8	(17.8)	33	12.3	9	71.6	5
Used capital expenditures	-	(X)	1.6	1	0.3	1	(1.1)	24
Retirements	8.5	1	2.7	5	2.8	2	6.7	9
End of year	228.8	2	156.8	3	163.2	2	774.9	1
Machinery and equipment:								
Beginning of year	1,393.5	1	1,316.9	2	697.5	2	3,022.7	1
New capital expenditures	196.0	1	220.7	3	114.5	4	345.4	2
Automobiles, trucks, etc., for highway use[3]	(0.5)	(A)	(1.9)	(A)	(0.8)	(A)	(4.7)	(A)
Computers and peripheral data processing equipment[3]	-	(X)	(3.3)	(A)	(0.4)	(A)	(3.7)	(A)
All other[3]	194.0	12	202.6	9	(100.4	20	325.5	6
New machinery and equipment, n.s.k.[4]	(1.6)	(A)	(13.0)	(A)	(13.0)	(A)	(11.6)	(A)
Used capital expenditures	0.3	1	21.0	10	(1.0)	30	(5.8)	(A)
Retirements	45.7	2	32.8	2	18.2	2	61.0	2
End of year	1,544.3	1	1,525.9	1	794.9	2	3,312.9	1
Total gross value of depreciable assets:								
Beginning of year	1,608.9	1	1,457.1	2	851.0	2	3,731.7	1
New capital expenditures	218.1	2	238.6	3	126.8	5	417.0	2
Used capital expenditures	0.3	1	22.6	9	(1.3)	23	(6.9)	15
Retirements	54.2	2	35.5	2	21.0	2	67.9	2
End of year	1,773.1	1	1,682.8	2	958.1	2	4,087.7	1
Depreciation charges during 1977	72.5	2	95.6	2	56.7	2	318.2	3
Buildings and other structures	6.9	3	6.7	5	7.1	2	34.1	3
Machinery and equipment	65.6	7	88.9	2	49.6	2	284.0	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2812, ALKALIES AND CHLORINE												
Total	-	**49**	**11.8**	**215.9**	**8.0**	**16.0**	**136.2**	**823.5**	**825.9**	**1 655.0**	**186.5**	**141.8**
Establishments with an average of—												
1 to 4 employees	E6	11	(Z)	0.2	(Z)	(Z)	0.1	0.5	0.7	1.5	0.1	0.1
5 to 9 employees	E9	4	(0.1)	(2.5)	(0.1)	(0.2)	(1.8)	(12.9)	(16.7)	(29.5)	(2.8)	(1.6)
10 to 19 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	7	0.5	9.0	0.4	0.8	6.4	65.8	62.8	128.7	8.3	5.5
100 to 249 employees	-	11	1.8	33.1	1.3	2.4	21.8	195.1	137.4	332.5	(137.6)	21.2
250 to 499 employees	-	4	1.5	25.4	1.0	2.2	17.1	109.8	129.9	239.5	(D)	23.3
500 to 999 employees	-	4	3.1	57.2	2.0	3.9	32.9	259.6	294.0	559.9	(D)	54.0
1,000 to 2,499 employees	-	3	4.7	88.5	3.2	6.5	56.0	179.7	184.5	363.3	37.5	36.1
Covered by administrative records[2]	E0	9	(Z)	0.5	(Z)	(Z)	0.3	2.4	2.1	4.5	0.4	0.3
INDUSTRY 2813, INDUSTRIAL GASES												
Total	-	**562**	**7.5**	**117.2**	**4.6**	**9.6**	**67.0**	**732.8**	**515.9**	**1 234.6**	**243.0**	**45.6**
Establishments with an average of—												
1 to 4 employees	E1	237	0.4	5.4	0.2	0.5	2.9	44.0	23.5	65.7	24.6	4.5
5 to 9 employees	-	121	0.8	12.8	0.6	1.3	9.2	80.5	55.1	134.2	16.9	4.9
10 to 19 employees	-	102	1.3	21.6	1.0	2.0	14.5	166.8	101.3	267.3	(140.2)	7.4
20 to 49 employees	-	71	2.1	34.1	1.3	2.7	18.9	215.5	157.3	367.4	(D)	13.5
50 to 99 employees	-	18	1.3	19.6	0.6	1.2	8.8	98.0	87.8	183.0	(D)	8.0
100 to 249 employees	-	13	1.5	23.7	0.9	1.8	12.6	127.8	90.9	217.0	61.4	7.3
Covered by administrative records[2]	E0	45	0.2	3.4	0.2	0.3	2.1	16.9	13.5	30.4	2.5	1.0
INDUSTRY 2816, INORGANIC PIGMENTS												
Total	-	**106**	**11.9**	**179.8**	**8.0**	**16.4**	**110.2**	**567.9**	**695.9**	**1 259.9**	**124.3**	**251.5**
Establishments with an average of—												
1 to 4 employees	E2	18	0.1	0.7	(Z)	0.1	0.4	2.5	10.1	12.6	0.2	0.8
5 to 9 employees	E2	10	0.1	1.0	(Z)	0.1	0.5	4.7	10.5	15.1	0.2	1.5
10 to 19 employees	E5	12	0.2	2.3	0.1	0.2	1.2	5.8	7.8	14.1	0.6	2.5
20 to 49 employees	-	25	0.8	11.8	0.6	1.2	7.4	38.2	52.2	88.6	2.9	12.3
50 to 99 employees	-	12	0.8	10.8	0.6	1.3	7.6	35.7	44.7	80.1	2.4	11.6
100 to 249 employees	-	15	2.2	33.7	1.5	3.2	21.9	104.8	159.3	261.6	75.1	75.9
250 to 499 employees	-	7	2.5	32.7	1.7	3.3	19.3	128.3	130.4	255.0	17.9	64.5
500 to 999 employees	-	7	5.3	86.8	3.3	7.0	51.7	247.9	280.9	532.9	25.0	82.3
Covered by administrative records[2]	E0	25	0.2	2.9	0.1	0.3	1.7	8.6	10.3	18.9	1.1	3.9
INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMICALS, N.E.C.												
Total	-	**564**	**78.2**	**1 326.7**	**47.0**	**96.2**	**717.9**	**4 333.1**	**4 344.0**	**8 615.7**	**466.4**	**858.4**
Establishments with an average of—												
1 to 4 employees	E2	149	0.3	4.0	0.2	0.3	2.3	18.9	26.0	45.5	52.9	3.4
5 to 9 employees	E1	60	0.4	6.0	0.3	0.6	3.5	25.3	35.0	59.5	2.6	5.1
10 to 19 employees	-	67	0.9	14.7	0.6	1.2	8.1	76.9	76.1	149.4	10.9	17.8
20 to 49 employees	-	111	3.6	55.4	2.5	5.1	34.3	249.8	384.3	629.1	26.9	65.5
50 to 99 employees	-	63	4.3	65.0	2.9	5.9	39.7	265.5	365.6	622.2	47.7	89.2
100 to 249 employees	-	53	8.4	139.5	5.6	11.7	86.3	526.4	757.4	1 273.3	131.2	139.4
250 to 499 employees	-	30	10.2	166.7	7.5	15.3	114.5	650.6	779.9	1 428.9	75.2	154.7
500 to 999 employees	-	16	11.0	200.8	7.0	14.4	120.7	609.5	828.5	1 421.2	76.6	187.8
1,000 to 2,499 employees	-	10	15.9	273.1	9.0	18.2	134.1	675.8	706.3	1 367.2	42.5	195.4
2,500 employees or more	-	5	23.2	401.5	11.6	23.6	174.4	1 234.5	384.9	1 619.4	-	-
Covered by administrative records[2]	E0	109	0.4	6.7	0.3	0.5	3.5	18.9	17.8	36.8	2.1	4.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2812	**Alkalies and chlorine:**										
	Entire industry	49	11.8	215.9	8.0	16.0	136.2	823.5	825.9	1 655.0	186.5
	Establishments with 75 percent specialization or more	35	3.2	57.1	2.2	4.5	38.2	346.4	262.7	610.8	46.1
28121	Chlorine, compressed or liquefied:										
	Establishments with this product class primary	3	0.3	4.8	0.2	0.4	3.5	30.5	27.0	57.3	6.9
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28122	Sodium carbonate (soda ash):										
	Establishments with this product class primary	4	4.4	82.5	3.0	6.1	53.3	166.1	197.6	364.3	29.1
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28123	Sodium hydroxide (caustic soda):										
	Establishments with this product class primary	25	7.0	126.1	4.6	9.3	77.8	613.3	585.9	1 204.6	147.8
28124	Other alkalies:										
	Establishments with this product class primary	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2813	**Industrial gases:**										
	Entire industry	562	7.5	117.2	4.6	9.6	67.0	732.8	515.9	1 234.6	243.0
	Establishments with 75 percent specialization or more	546	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28132	Acetylene:										
	Establishments with this product class primary	131	1.3	17.2	0.8	1.7	10.8	50.8	63.5	112.4	12.9
	Establishments with 75 percent specialization or more in class	113	0.9	11.4	0.6	1.2	7.5	34.7	40.3	73.4	(D)
28133	Carbon dioxide:										
	Establishments with this product class primary	43	0.6	9.7	0.4	0.7	4.6	74.0	28.4	101.2	22.0
	Establishments with 75 percent specialization or more in class	43	0.6	9.7	0.4	0.7	4.6	74.0	28.4	101.2	22.0
28135	Nitrogen (including lower purity):										
	Establishments with this product class primary	169	1.6	26.4	0.9	2.0	14.5	180.2	111.9	289.1	52.5
	Establishments with 75 percent specialization or more in class	119	0.3	4.8	0.1	0.3	2.1	36.4	17.5	53.2	8.7
28136	Oxygen (including lower purity):										
	Establishments with this product class primary	88	2.2	38.4	1.4	3.0	21.9	272.2	185.6	450.5	85.1
	Establishments with 75 percent specialization or more in class	39	0.5	9.6	0.4	0.8	5.7	69.2	51.1	118.2	35.3
28137	Other elemental compressed and liquefied gases:										
	Establishments with this product class primary	38	1.2	16.7	0.8	1.5	10.0	118.3	100.5	218.2	42.3
	Establishments with 75 percent specialization or more in class	26	0.5	7.7	0.4	0.7	4.8	45.5	46.6	91.7	(D)
2816	**Inorganic pigments:**										
	Entire industry	106	11.9	179.8	8.0	16.4	110.2	567.9	695.9	1 259.9	124.3
	Establishments with 75 percent specialization or more	92	8.7	134.1	6.0	12.2	83.7	432.2	517.9	946.2	112.5
28161	Titanium pigments, composite and pure:										
	Establishments with this product class primary	14	5.4	86.8	3.6	7.4	52.6	296.9	363.9	665.5	(D)
	Establishments with 75 percent specialization or more in class	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28162	Other white opaque pigments:										
	Establishments with this product class primary	7	1.0	13.3	0.8	1.6	9.4	47.8	65.5	112.6	(D)
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28163	Chrome colors and other inorganic pigments:										
	Establishments with this product class primary	52	5.2	75.7	3.4	6.9	45.6	211.9	254.4	458.2	28.8
	Establishments with 75 percent specialization or more in class	40	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2819	**Industrial inorganic chemicals, n.e.c.:**										
	Entire industry	564	78.2	1 326.7	47.0	96.2	717.9	4 333.1	4 344.0	8 615.7	466.4
	Establishments with 75 percent specialization or more	485	37.8	628.8	25.8	52.3	395.8	2 184.9	2 957.5	5 084.2	337.8
28193	Sulfuric acid:										
	Establishments with this product class primary	41	2.1	35.8	1.5	3.2	25.3	160.2	176.6	335.5	46.8
	Establishments with 75 percent specialization or more in class	28	1.0	17.4	0.7	1.5	12.0	84.2	99.7	182.8	(D)
28194	Inorganic acids, except nitric, sulfuric, and phosphoric:										
	Establishments with this product class primary	8	1.0	17.3	0.8	1.5	12.2	76.5	68.8	145.8	10.6
	Establishments with 75 percent specialization or more in class	3	0.2	3.1	0.2	0.3	2.4	11.1	18.7	29.7	1.9
28195	Aluminum oxide, except natural alumina:										
	Establishments with this product class primary	8	7.1	137.3	5.2	10.4	98.8	270.0	731.1	982.5	(D)
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28196	Other aluminum compounds:										
	Establishments with this product class primary	52	0.7	11.2	0.6	1.2	7.8	49.4	69.9	119.1	3.3
	Establishments with 75 percent specialization or more in class	49	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28197	Other potassium and sodium compounds:										
	Establishments with this product class primary	57	7.3	132.0	5.0	10.2	82.2	517.1	785.7	1 295.6	67.0
	Establishments with 75 percent specialization or more in class	36	2.3	38.5	1.7	3.6	26.7	198.9	254.4	452.0	20.3
28198	Inorganic chemical catalytic preparations:										
	Establishments with this product class primary	24	2.7	42.3	1.7	3.6	26.3	184.3	158.9	333.4	21.9
	Establishments with 75 percent specialization or more in class	19	1.7	26.5	1.1	2.2	16.7	107.9	114.5	213.8	15.0
28199	Other inorganic chemicals, n.e.c.:										
	Establishments with this product class primary	171	26.6	429.1	16.2	33.1	224.0	1 447.8	1 640.6	3 062.9	213.7
	Establishments with 75 percent specialization or more in class	125	15.1	248.5	9.8	20.6	141.1	953.0	1 181.7	2 106.9	156.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2812	Alkalies and chlorine.....1977..	1,655.0	1,034.6	610.7	9.7	63	1,786.7	1,034.7	752.0	58
	1972..	823.2	525.7	280.9	16.6	65	805.7	525.7	280.0	65
	1967..	719.8	465.4	231.8	22.7	67	623.0	465.4	157.6	75
2813	Industrial gases.....1977..	1,234.6	1,111.4	33.0	90.2	97	1,199.1	1,111.4	87.7	93
	1972..	679.3	605.2	27.8	46.3	96	659.1	605.2	53.9	92
	1967..	588.7	481.7	19.3	87.8	96	543.4	481.7	61.7	89
2816	Inorganic pigments.....1977..	1,259.9	1,077.6	145.5	36.8	88	1,279.8	1,077.6	202.2	84
	1972..	796.9	651.9	109.0	36.0	86	756.2	651.9	104.3	86
	1967..	549.3	472.0	53.7	23.5	90	560.8	472.0	88.7	84
2819	Industrial inorganic chemicals, n.e.c.....1977..	r8,615.7	r5,312.7	770.9	2,532.1	[1]87	r6,920.3	r5,312.7	1,607.6	[1]77
	1972..	r3,833.3	r2,388.8	291.0	1,153.5	[1]89	r3,008.8	r2,388.8	620.0	[1]79
	1967..	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

(NA) Not available. r Revised. n.e.c. Not elsewhere classified.

[1] Government-owned, contractor-operated (GOCO) establishments did not enter into calculation of "primary products specialization ratio" or "coverage ratio" as all dollar receipts for these establishments were included in "miscellaneous receipts."

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Alkalies and chlorine (SIC 2812)	Industrial gases (SIC 2813)	Inorganic pigments (SIC 2816)	Industrial inorganic chemicals, n.e.c. (SIC 2819)	Other industries
	Total	(X)	1,655.0	1,234.6	1,259.9	8,615.7	(X)
	Primary products	(X)	1,034.6	1,111.4	1,077.6	5,312.7	(X)
	Secondary products	(X)	610.7	33.0	145.5	770.9	(X)
	Miscellaneous receipts	(X)	9.7	90.2	36.8	2,532.1	(X)
2812-	Alkalies and chlorine	1,786.7	1,034.6	-	-	124.0	628.2
28121	Chlorine, compressed or liquefied	520.0	330.9	-	-	(D)	(D)
28122	Sodium carbonate (soda ash)	189.1	172.7	-	-	(D)	(D)
28123	Sodium hydroxide (caustic soda)	997.0	498.9	-	-	(D)	(D)
28124	Other alkalies	73.9	25.9	-	-	(D)	(D)
28120	Alkalies and chlorine, n.s.k.	6.7	6.2	-	-	(D)	(D)
2813-	Industrial gases	1,199.1	5.9	1,111.4	(D)	(D)	78.1
28132	Acetylene	127.9	-	87.5	-	(D)	(D)
28133	Carbon dioxide	103.0	-	92.9	(D)	(D)	8.7
28135	Nitrogen (including lower purity)	278.7	-	274.7	-	-	4.0
28136	Oxygen (including lower purity)	375.1	(D)	375.0	-	-	(D)
28137	Other elemental compressed and liquefied gases	268.0	(D)	234.9	-	-	(D)
28130	Industrial gases, n.s.k.	46.4	-	46.4	-	-	(Z)
2816-	Inorganic pigments	1,279.8	-	-	1,077.6	22.3	179.9
28161	Titanium pigments, composite and pure	627.1	-	-	598.9	(D)	(D)
28162	Other white opaque pigments	175.9	-	-	111.0	(D)	(D)
28163	Chrome colors and other inorganic pigments	454.5	-	-	345.4	19.1	90.0
28160	Inorganic pigments, n.s.k.	22.3	-	-	22.3	-	-
2819-	Industrial inorganic chemicals, n.e.c.	6,920.3	156.9	-	47.5	5,312.7	1,403.2
28193	Sulfuric acid	427.1	(D)	-	(D)	267.5	(D)
28194	Inorganic acids, except nitric, sulfuric, and phosphoric	364.4	13.8	-	-	149.1	201.5
28195	Aluminum oxide, except natural alumina	827.3	-	-	-	827.3	-
28196	Other aluminum compounds	312.3	-	-	-	255.3	57.0
28197	Other potassium and sodium compounds	1,102.8	(D)	-	(D)	837.2	197.2
28198	Inorganic chemical catalytic preparations	398.4	(D)	-	-	309.6	(D)
28199	Other inorganic chemcials, n.e.c.	3,375.3	(D)	-	(D)	2,557.8	714.4
28190	Industrial inorganic chemicals, n.e.c., n.s.k.	112.8	-	-	-	108.9	3.9
	Other shipments by 4-digit product group:						
2821-	Plastics materials and resins	(X)	108.6	-	(D)	(D)	(X)
2841-	Soap and other detergents	(X)	-	-	-	(D)	(X)
2842-	Polishes and sanitation goods	(X)	(D)	-	-	(D)	(X)
2843-	Surface active agents	(X)	(D)	-	-	(D)	(X)
2865-	Cyclic crudes and intermediates	(X)	59.8	-	(D)	53.8	(X)
2869-	Industrial organic chemicals, n.e.c.	(X)	(D)	(D)	(D)	163.1	(X)
2873-	Nitrogenous fertilizers	(X)	(D)	(D)	(D)	(D)	(X)
2874-	Phosphatic fertilizers	(X)	-	-	-	99.4	(X)
2875-	Fertilizers, mixing only	(X)	-	-	-	(D)	(X)
2879-	Agricultural chemicals, n.e.c.	(X)	-	-	-	(D)	(X)
2899-	Chemical preparations, n.e.c.	(X)	(D)	-	(D)	(D)	(X)
2999-	Petroleum and coal products, n.e.c.	(X)	-	(D)	-	-	(X)
3274-	Lime	(X)	-	(D	-	(D)	(X)
3275-	Gypsum products	(X)	-	-	(D)	-	(X)
3281-	Cut stone and stone products	(X)	-	-	-	(D)	(X)
3313-	Electrometallurgical products	(X)	-	-	(D)	(D)	(X)
3331-	Primary copper	(X)	-	-	-	(D)	(X)
3341-	Secondary nonferrous metals	(X)	-	-	(D)	(D)	(X)
3356-	Nonferrous rolling and drawing, n.e.c.	(X)	-	-	-	(D)	(X)
3443-	Fabricated plate work (boiler shops)	(X)	-	-	-	(D)	(X)
3499-	Fabricated metal products, n.e.c.	(X)	-	-	-	(D)	(X)
3824-	Fluid meters and counting devices	(X)	-	-	-	(D)	(X)
3842-	Surgical appliances and supplies	(X)	-	-	-	(D)	(X)
	Photographic equipment and supplies	(X)	-	-	-	(D)	(X)
	Miscellaneous receipts:						
93000 00	Contract work	(X)	-	2.0	1.9	2,296.9	(X)
99980 13	Sales of scrap and refuse	(X)	.3	-	(D)	19.5	(X)
99980 41	Receipts for research and developmental work	(X)	-	-	(D)	(D)	(X)
99980 98	Other miscellaneous receipts	(X)	.1	19.9	(D)	(D)	(X)
99989 00	Resales	(X)	9.3	68.3	30.0	200.5	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis—Shipments by Product Class and Industry: 1977**—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
2812-	2611 Pulp mills	(D)
	2821 Plastics materials and resins	(D)
	2841 Soap and other detergents	(D)
	2865 Cyclic crudes and intermediates	(D)
	2869 Industrial organic chemicals, n.e.c	(D)
2813-	2821 Plastics materials and resins	(D)
	2869 Industrial organic chemicals, n.e.c	(D)
	2873 Nitrogenous fertilizers	(D)
2816-	2865 Cyclic crudes and intermediates	66.6
	2869 Industrial organic chemicals, n.e.c	(D)
	2899 Chemical preparations, n.e.c	(D)
	3333 Primary zinc	(D)
	3341 Secondary nonferrous metals	29.1
2819-	2821 Plastics materials and resins	(D)
	2823 Cellulosic manmade fibers	(D)
	2833 Medicinals and botanicals	(D)
	2841 Soap and other detergents	(D)
	2865 Cyclic crudes and intermediates	(D)
2819-	2869 Industrial organic chemicals, n.e.c	(D)
	2873 Nitrogenous fertilizers	(D)
	2874 Phosphatic fertilizers	(D)
	2879 Agricultural chemicals, n.e.c	(D)
	2891 Adhesives and sealants	(D)
	2899 Chemical preparations, n.e.c	(D)
	2911 Petroleum refining products	(D)
	3079 Miscellaneous plastics products	(D)
	3312 Blast furnace and steel mills	(D)
	3313 Electrometallurgical products	(D)
	3331 Primary copper	50.2
	3333 Primary zinc	(D)
	3334 Primary aluminum	(D)
	3341 Secondary nonferrous metals	(D)
	3399 Primary metal products, n.e.c	(D)
	3443 Fabricated plate work (boiler shops)	(D)
	3861 Photographic equipment and supplies	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments, including interplant transfers[1]		Commercial product shipments only	
					Quantity	Value (million dollars)	Quantity	Value (million dollars)
			1977					
	ALKALIES AND CHLORINE							
2812- --	As reported in census of manufactures		(NA)	(X)	(X)	1,786.7	(X)	(X)
2812- --	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(NA)	(X)	(X)	1,740.6	(X)	(X)
28121 --	Chlorine, compressed or liquefied:							
	As reported in census of manufactures		26	(X)	(X)	520.0	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(NA)	(X)	(X)	510.3	(X)	(X)
28121 11	Gas	1,000 s. tons.	(NA)	[2]10,573.0	505.8	32.7	(D)	(D)
28121 15	Liquid	1,000 s. tons.	(NA)	6,416.6	4,828.7	477.6	4,076.6	395.9
28122 --	Sodium carbonate (soda ash):							
	As reported in census of manufactures		4	(X)	(X)	189.1	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(NA)	(X)	(X)	173.7	(X)	(X)
	Synthetic (58 percent Na_2O):[3]							
28122 51	Crude bicarbonate equivalent	1,000 s. tons.	(NA)	[4]1,810.4	(X)	(X)	(X)	(X)
28122 31	Finished bicarbonate[5]		(NA)	(D)	(D)	(D)	(D)	(D)
28122 41	Finished dense ash		(NA)	812.1	811.3	63.9	810.5	63.8
28122 45	Finished light ash	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28123 --	Sodium hydroxide (caustic soda):							
	As reported in census of manufactures		26	(X)	(X)	997.0	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(NA)	(X)	(X)	987.0	(X)	(X)
28123 51 28123 70	All processes (100 percent NaOH)	1,000 s. tons.	(NA)	[6]11,000.5	(X)	(X)	(X)	(X)
28123 61 28123 71	68 to 74 percent liquid[7]		(NA)	859.5	644.4	76.5	(D)	(D)
28123 65 28123 75	All other liquid[7]		(NA)	9,783.1	7,252.2	827.0	9,133.3	695.2
28123 67 28123 77	Dry (all forms)[8]	1,000 s. tons.	(NA)	353.4	339.0	83.5	(D)	(D)
28124 --	Other alkalies:							
	As reported in census of manufactures		12	(X)	(X)	73.9	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(NA)	(X)	(X)	69.6	(X)	(X)
	Potassium hydroxide (caustic potash) (88 to 92 percent KOH):							
28124 21	Total liquid	1,000 s. tons.	(NA)	236.4	(X)	(X)	(X)	(X)
28124 22	Liquid		(NA)	(D)	(D)	(D)	(D)	(D)
28124 23	Solid	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28124 90	Other alkalies[9]		(NA)	(X)	(X)	15.1	(X)	(X)
28120 00	Alkalies and chlorine, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	(X)	2.2	(X)	(X)
28120 02	Alkalies and chlorine, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	(X)	4.5	(X)	(X)
			1972					
	ALKALIES AND CHLORINE							
2812- --	As reported in census of manufactures		(X)	(X)	(X)	805.7	(X)	(X)
2812- --	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(X)	(X)	(X)	790.1	(X)	(X)
28121 --	Chlorine, compressed or liquefied:							
	As reported in census of manufactures		(X)	(X)	(X)	210.2	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(X)	(X)	(X)	206.5	(X)	(X)
28121 11	Gas	1,000 s. tons.	(X)	[2]10,402.3	635.5	25.2	418.5	17.4
28121 15	Liquid	1,000 s. tons.	(X)	5,015.0	4,242.8	181.3	3,794.8	162.2
28122 --	Sodium carbonate (soda ash):							
	As reported in census of manufactures		(X)	(X)	(X)	147.6	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(X)	(X)	(X)	145.2	(X)	(X)
	Synthetic (58 percent Na_2O):[3]							
28122 51	Crude bicarbonate equivalent	1,000 s. tons.	(X)	[4]4,304.9	(X)	(X)	(X)	(X)
28122 31	Finished bicarbonate[5]		(X)	125.3	121.6	10.6	(D)	(D)
28122 41	Finished dense ash		(X)	[10]2,331.3	2,353.7	82.0	(D)	(D)
28122 45	Finished light ash	1,000 s. tons.	(X)	1,848.2	1,536.2	52.6	1,250.2	43.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments, including interplant transfers[1]		Commercial product shipments only	
					Quantity	Value (million dollars)	Quantity	Value (million dollars)
			1972--Con.					
	ALKALIES AND CHLORINE--Con.							
28123 --	Sodium hydroxide soda):							
	As reported in census of manufactures	.....	(X)	(X)	(X)	410.9	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(X)	(X)	(X)	407.9	(X)	(X)
28123 51 28123 70	All processes (100 percent NaOH)	1,000 s. tons.	(X)	[6]10,215.8	(X)	(X)	(X)	(X)
28123 61 28123 71	68 to 74 percent liquid[7]		(X)	833.9	712.4	31.7	688.9	30.7
28123 65 28123 75	All other liquid[7]		(X)	8,805.8	6,790.1	326.2	6,127.1	294.1
28123 67 28123 77	Dry (all forms)[8]	1,000 s. tons.	(X)	472.5	436.9	50.0	400.7	46.3
28124 --	Other alkalies:							
	As reported in census of manufactures	.....	(X)	(X)	(X)	33.7	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(X)	(X)	(X)	30.5	(X)	(X)
	Potassium hydroxide (caustic potash) (88 to 92 percent KOH):							
28124 21	Total liquid	1,000 s. tons.	(X)	188.3	(X)	(X)	(X)	(X)
28124 22	Liquid		(X)	169.5	187.3	21.4	(D)	(D)
28124 23	Solid	1,000 s. tons.	(X)	18.7	13.3	3.1	(D)	(D)
28124 90	Other alkalies[9]	.....	(X)	(X)	(X)	6.0	(X)	(X)
28120 00	Alkalies and chlorine, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(X)	(X)	(X)	3.3	(X)	(X)
28120 02	Alkalies and chlorine, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(X)					

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity	Value (million dollars)		Quantity	Value (million dollars)
2813- --	INDUSTRIAL GASES								
	As reported in census of manufactures[11]	.....	(NA)	(X)	(X)	1,199.1	(X)	(X)	659.1
	As reported in Current Industrial Reports MA-28C, Industrial Gases[11]	.....	(NA)	(X)	(X)	1,134.0	(X)	(X)	607.2
28132 --	Acetylene:								
	As reported in census of manufactures	.....	31	(X)	(X)	127.9	(X)	(X)	96.0
	As reported in Current Industrial Reports MA-28C, Industrial Gases	Mil. cu. ft...	(NA)	[12]6,003	3,830	136.7	[12]11,463	7,215	93.9
	Produced for pipeline shipment, excluding that shipped to be compressed		(NA)	[13]4,676	2,176	67.0	5,720	5,720	51.9
	Produced for compression, including cylinder and pipeline		(NA)	1,327	1,296	69.7	1,501	1,495	42.0
	Produced for consumption in this plant	Mil. cu. ft...	(NA)	([13])	(X)	(X)	4,242	(X)	(X)
23133 --	Carbon dioxide:								
	As reported in census of manufactures	.....	34	(X)	(X)	103.0	(X)	(X)	45.7
	As reported in Current Industrial Reports MA-28C, Industrial Gases	1,000 s. tons.	(NA)	2,610.3	2,583.5	103.6	1,610.3	1,500.5	48.4
28133 11	Liquid and gas		(NA)	[14]2,241.2	[14]2,236.2	75.6	[14]1,259.9	[14]1,150.0	29.6
28133 31	Solid (dry ice)	1,000 s. tons.	(NA)	363.1	347.3	28.0	350.3	350.5	18.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity	Value (million dollars)		Quantity	Value (million dollars)
	INDUSTRIAL GASES--Con.								
28135 --	Nitrogen:[15]								
	As reported in census of manufactures	.....	15	(X)	(X)	278.7	(X)	(X)	([16])
	As reported in Current Industrial Reports MA-28C, Industrial Gases	Mil. cu. ft.	(NA)	327,661	300,003	273.8	(X)	(X)	130.3
	Gas:								
	Produced for pipeline shipment	Mil. cu. ft.	(NA)	204,958	204,029	83.3	112,239	112,139	30.4
	Liquid:								
	Produced for bulk delivery shipment to pipeline or to other air separation plants		(NA)	6,459	6,511	8.7	5,095	5,091	4.6
	Gas and liquid:								
	Produced for cylinder and bulk delivery shipment		(NA)	89,280	89,463	181.8	59,722	59,603	95.3
	Produced for consumption in this plant	Mil. cu. ft.	(NA)	26,964	(X)	(X)	16,484	(X)	(X)
28136 --	Oxygen:[15]								
	As reported in census of manufactures	.....	21	(X)	(X)	375.1	(X)	(X)	([16])
	As reported in Current Industrial Reports MA-28C, Industrial Gases	Mil. cu. ft.	(NA)	392,427	340,471	354.1	351,733	300,263	215.1
	Gas:								
	Produced for pipeline shipment	Mil. cu. ft.	(NA)	270,595	270,595	202.4	246,963	246,998	119.0
	Liquid:								
	Produced for bulk shipment to pipelines or to other air separation plants		(NA)	7,443	7,443	11.6	10,275	10,275	12.2
	Liquid and gas:								
	Produced for cylinder and bulk delivery shipment		(NA)	62,408	62,433	140.2	44,473	44,473	85.6
	Produced for consumption in this plant	Mil. cu. ft.	(NA)	51,981	(X)	(X)	51,479	(X)	(X)
28137 --	Other elemental gases and compressed and liquefied gases, n.e.c.:								
	As reported in census of manufactures	.....	44	(X)	(X)	268.0	(X)	(X)	[16]487.2
	As reported in Current Industrial Reports MA-28C, Industrial Gases	.....	(NA)	(X)	(X)	226.9	(X)	(X)	124.0
28137 15	Argon, high purity, produced for cylinder and bulk delivery and pipeline shipment, and for consumption in this plant	Mil. cu. ft.	(NA)	5,922	5,914	72.6	3,804	3,804	32.5
28137 20	Hydrogen, liquid and gas, including lower purity	Mil. cu. ft.	(NA)	[17]84,759	35,165	94.7	[17]58,890	17,952	30.3
	Produced for cylinder and bulk delivery shipment		(NA)	9,206	9,206	57.8	18,297	17,952	30.3
	Produced for pipeline shipment and government use		(NA)	26,536	25,959	36.9			
	Produced for consumption in this plant	Mil. cu. ft.	(NA)	49,017	(X)	(X)	40,593	(X)	(X)
28137 71	Nitrous oxide	Mil. gal. (STP).	(NA)	(D)	(D)	([18])	1,278.3	1,278.3	4.5
28137 98	Other industrial gases, n.e.c., including crude argon, carbon dioxide produced and transferred for further processing, and crude and high purity helium produced in privately owned plants[11 19]	.....	(NA)	(X)	(X)	[18]59.6	(X)	(X)	56.7
28130 00	Industrial gases, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	(X)	16.0	(X)	(X)	26.7
28130 02	Industrial gases, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	(X)	30.4	(X)	(X)	3.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]	
					Quantity[20]	Value (million dollars)
			1977			
	INORGANIC PIGMENTS					
2816- --	Total	.....	(NA)	(X)	(X)	1,279.8
28161 --	Titanium pigments:					
28161 11	Titanium pigments, composite and pure (100 percent TiO_2):					
	As reported in census of manufactures	1,000 s. tons.	12	743.6	752.6	627.1
	As reported in Current Industrial Reports M28A, Inorganic Chemicals	1,000 s. tons.	(NA)	687.1	696.6	602.3
28162 --	Other white opaque pigments	.....	(NA)	(X)	(X)	175.9
28162 13	White lead, basic carbonate and sulfate, excluding white lead in oil	1,000 s. tons.	3	18.4	10.4	9.4
	Zinc oxide pigments:					
28162 21	Lead-free zinc oxide		8	197.8	194.5	150.9
28162 25	Leaded zinc oxide		3			
28162 98	All other white opaque pigments, including antimony oxide, lithopone, and pure zinc sulfide	1,000 s. tons.	5	14.6	13.7	15.1
28162 00	Other white opaque pigments, n.s.k.	.....	(NA)	(X)	(X)	.4
28163 --	Chrome colors and other inorganic pigments	.....	(NA)	(X)	(X)	454.5
	Chrome colors:					
28163 10	As reported in census of manufactures	.....	13	(X)	(X)	100.2
	As reported in Current Industrial Reports M28A, Inorganic Chemicals	.....	(NA)	(X)	(X)	103.4
28163 11	Chrome green (chrome yellow and iron blue) (C.P.)	1,000 s. tons.	(NA)	(D)	(D)	(D)
28163 13	Chrome oxide green (C.P.)		(NA)	8.8	6.4	12.2
28163 15	Chrome yellow and orange (C.P.)		(NA)	35.2	32.5	49.7
28163 17	Molybdate chrome orange (C.P.)		(NA)	14.0	13.2	28.2
28163 18	Zinc yellow (zinc chromate) (C.P.)		(NA)	(D)	(D)	4.6
28163 19	Other chrome colors (C.P.)		(NA)	(D)	(D)	(D)
28163 27	White extender pigments, including barytes, blanc fixe, and whiting		4	117.1	118.7	37.5
	Color pigments other than chrome colors and lakes and toners:					
28163 31	Iron oxide pigments		8	113.6	110.8	84.9
	Colored lead pigments:					
28163 41	Red lead		5	9.2	9.3	7.8
28163 45	Litharge	1,000 s. tons.	10	97.2	93.5	67.3
28163 51	Iron blues (prussian blue, milori blue, etc.):					
	As reported in census of manufactures	Million lb.	5	(D)	(D)	(D)
	As reported in Current Industrial Reports M28A, Inorganic Chemicals		(NA)	(D)	(D)	(D)
28163 61	Pearl essence		2	(D)	(D)	(D)
28163 88	Carbon blacks (bone and lamp), excluding furnace and channel carbon black and charcoal		5	13.3	12.0	7.4
28163 89	Cadmium sulfide pigments		4	4.3	4.3	8.1
28163 91	Ceramic colors		9	55.5	49.0	55.0
28163 90	Copper oxide pigments		2	(D)	(D)	(D)
	All other color pigments, n.e.c.:					
28163 94	Containing lead		2	42.8	40.1	33.2
28163 96	Not containing lead	Million lb.	8			
28163 00	Chrome colors and other inorganic pigments, n.s.k.	.....	(NA)	(X)	(X)	5.0
28160 00	Inorganic pigments, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	(X)	3.5
28160 02	Inorganic pigments, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	(X)	18.9
			1972			
	INORGANIC PIGMENTS					
2816- --	Total	.....	(X)	(X)	(X)	756.2
28161 --	Titanium pigments:					
28161 11	Titanium pigments, composite and pure (100 percent TiO_2):					
	As reported in census of manufactures	1,000 s. tons.	(X)	705.5	742.6	355.6
	As reported in Current Industrial Reports M28A, Inorganic Chemicals	1,000 s. tons.	(X)	693.3	725.1	346.6
28162 --	Other white opaque pigments	.....	(X)	(X)	(X)	r99.9
28162 13	White lead, basic carbonate and sulfate, excluding white lead in oil	1,000 s. tons.	(X)	18.3	14.5	5.0
	Zinc oxide pigments:					
28162 21	Lead-free zinc oxide		(X)	226.6	239.7	79.2
28162 25	Leaded zinc oxide		(X)	(D)	(D)	(21)
28162 98	All other white opaque pigments, including antimony oxide, lithopone, and pure zinc sulfide	1,000 s. tons.	(X)	(S)	(S)	21 12.8
28162 00	Other white opaque pigments, n.s.k.	.....	(X)	(X)	(X)	2.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity[20]	Product shipments[1] Value (million dollars)
			1972--Con.			
	INORGANIC PIGMENTS--Con.					
28163 --	Chrome colors and other inorganic pigments	.....	(X)	(X)	(X)	283.2
	Chrome colors:					
28163 10	As reported in census of manufactures	.....	(X)	(X)	(X)	59.2
	As reported in Current Industrial Reports M28A, Inorganic Chemicals	.....	(X)	(X)	(X)	(NA)
28163 11	Chrome green (chrome yellow and iron blue) (C.P.)	1,000 s. tons.	(X)	(D)	(D)	(D)
28163 13	Chrome oxide green (C.P.)		(X)	6.2	5.9	5.9
28163 15	Chrome yellow and orange (C.P.)		(X)	33.8	32.0	24.5
28163 17	Molybdate chrome orange (C.P.)		(X)	12.4	12.3	13.7
28163 18	Zinc yellow (zinc chromate) (C.P.)		(X)	5.7	5.9	4.6
28163 19	Other chrome colors (C.P.)		(X)	(S)	(S)	(S)
28163 27	White extender pigments, including barytes, blanc fixe, and whiting		(X)	(S)	(S)	14.2
	Color pigments other than chrome colors and lakes and toners:					
28163 31	Iron oxide pigments		(X)	(S)	(S)	40.4
	Colored lead pigments:					
28163 41	Red lead		(X)	23.8	26.3	9.9
28163 45	Litharge	1,000 s. tons.	(X)	167.4	157.2	45.6
28163 51	Iron blues (prussian blue, milori blue, etc.):					
	As reported in census of manufactures	Million lb....	(X)	5.3	5.3	6.5
	As reported in Current Industrial Reports M28A, Inorganic Chemicals		(X)	5.2	4.7	6.1
28163 61	Pearl essence		(X)	(D)	(D)	(22)
28163 88	Carbon blacks (bone and lamp), excluding furnace and channel carbon black and charcoal		(X)	2.5	3.2	1.4
28163 91	Ceramic colors		(X)	(S)	53.8	37.0
28163 98	All other color pigments, n.e.c. (including ultramarine blue), excluding organic pigments and lakes and toners	Million lb....	(X)	(X)	(X)	22 59.1
28163 00	Chrome colors and other inorganic pigments, n.s.k.	.....	(X)	(X)	(X)	9.7
28160 00	Inorganic pigments, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(X)	(X)	(X)	12.4
28160 02	Inorganic pigments, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(X)	(X)	(X)	5.1

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments[23] Quantity	Total product shipments[23] Value (million dollars)	Commercial product shipments Quantity	Commercial product shipments Value (million dollars)
			1977					
2819- --	INDUSTRIAL INORGANIC CHEMICALS, N.E.C.							
	As reported in census of manufactures	.....	(NA)	(X)	(X)	6,920.3	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals[24]	.....	(NA)	(X)	(X)	6,606.4	(X)	(X)
28193 --	Sulfuric acid:							
	As reported in census of manufactures	.....	52	(X)	(X)	427.1	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	1,000 s. tons.	(NA)	38,336.7	13,106.0	413.0	11,015.6	363.0
	Contact acid:							
28193 11	Oleum under 40 percent[25]		(NA)	1.8	1.1	44.9	1.0	41.5
28193 15	Oleum 40 percent[25]		(NA)	(D)	(D)	(D)	(D)	(D)
28193 17	Oleum over 40 percent[25]		(NA)	(D)	(D)	(D)	(D)	(D)
28193 31	Other than oleum grades[25]		(NA)	26 33.7	26 10.9	26 349.0	26 9.8	26 311.4
28193 51	Chamber acid[25]		(NA)	(26)	(26)	(26)	(26)	(26)
28193 71	Spent acid used in fortification in contact units and included in production reported above, including acid from own production or received from outside sources[25]	1,000 s. tons.	(NA)	1.7	(X)	(X)	(X)	(X)
28194 --	Inorganic acids, except nitric, sulfuric, and phosphoric:							
	As reported in census of manufactures	.....	58	(X)	(X)	364.4	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(NA)	(X)	(X)	475.5	(X)	(X)
28194 11	Boric (boraic) (100 percent H_3BO_3)	1,000 s. tons.	(NA)	176.6	155.7	45.0	(D)	(D)
28194 31	Chromic acid (100 percent CrO_3)[27]		(NA)	(D)	(D)	(D)	(D)	(D)
	Hydrochloric acid, including anhydrous (100 percent HCL)[28]		(NA)	2,720.7	1,085.7	111.7	(D)	(D)
28194 41	From salt		(NA)	97.7	81.1	10.1	81.1	10.1
28194 45	From chlorine		(NA)	95.1	60.1	6.9	60.1	6.9
28194 47	Byproduct and other		(NA)	2,475.7	795.1	92.7	(D)	82.3
28194 51	Hydrocyanic, including anhydrous (100 percent HCN)	1,000 s. tons.	(NA)	197.9	55.6	(29)	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments[23] Quantity	Total product shipments[23] Value (million dollars)	Commercial product shipments Quantity	Commercial product shipments Value (million dollars)
					1977--Con.			
2819- --	INDUSTRIAL INORGANIC CHEMICALS, N.E.C.--Con.							
	Inorganic acids, except nitric, sulfuric, and phosphoric--Con.							
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals--Con.							
	Hydrofluoric (100 percent HF):							
	Produced and withdrawn from system:							
28194 61	Anhydrous	1,000 s. tons.	(NA)	171.3	115.1	73.2	(D)	(D)
28194 65	Aqueous		(NA)	18.8	18.1	13.3	(D)	(D)
28194 66	Produced but not withdrawn from system (estimated)		(NA)	82.7	(X)	(X)	(X)	(X)
28194 67	Mixed (sulfuric and nitric)		(NA)	172.4	(D)	([29])	(D)	(D)
28194 98	Other inorganic acids, n.e.c.	1,000 s. tons.	(NA)	(X)	(X)	[29]82.2	(X)	(X)
28195 --	Aluminum oxide, except natural alumina (100 percent Al_2O_3):							
	As reported in census of manufactures		6	(X)	(X)	827.3	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	1,000 s. tons.	(NA)	5,948.3	5,745.1	827.5	1,334.2	223.8
28196 --	Other aluminum compounds:							
	As reported in census of manufactures		22	(X)	(X)	312.3	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(NA)	(X)	(X)	313.9	(X)	(X)
	Chloride:							
28196 11	Liquid (32°Be[1])	1,000 s. tons.	(NA)	21.2	(D)	([30])	(D)	(D)
28196 15	Crystal (32°Be[1])		(NA)					
28196 17	Anhydrous (100 percent $AlCl_3$)		(NA)	45.5	28.6	19.3	28.1	19.3
28196 25	Hydroxide; trihydrate (100 percent $Al_2O_3.3H_2O$)		(NA)	(D)	(D)	(D)	(D)	(D)
28196 27	Fluoride (technical)		(NA)	148.5	150.2	75.3	79.7	40.2
	Sulfate:							
28196 51	Commercial (17 percent Al_2O_3)		(NA)	[31]1,254.7	1,159.4	96.8	(D)	(D)
28196 55	Iron free (17 percent Al_2O_3)	1,000 s. tons.	(NA)	123.0	116.9	7.8	(D)	(D)
28196 71	Other inorganic aluminum compounds, including sodium aluminate, light aluminum hydroxide, cryolite, and alums		(NA)	(X)	(X)	[30]44.6	(X)	(X)
28197 --	Potassium and sodium compounds, except bleaches, alkalies, and alums:							
	As reported in census of manufactures		68	(X)	(X)	1,102.8	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals		(NA)	(X)	(X)	1,410.4	(X)	(X)
	Potassium compounds, n.e.c.:							
28197 13	Iodide (100 percent KI)	1,000 s. tons.	(NA)	.8	.6	4.3	.8	4.3
28197 16	Sulfate (100 percent K_2SO_4)		(NA)	494.0	503.0	48.4	(D)	(D)
28197 18	Pyrophosphate (tetrapotassium pyrophosphate) (100 percent $K_4P_2O_7$)		(NA)	41.0	39.1	25.0	(D)	(D)
28197 17	Other potassium salts and compounds, n.e.c., including potassium bromide, chlorate, nitrate, and perchlorate		(NA)	(X)	(X)	142.5	(X)	(X)
28197 21	Sodium (metal) (100 percent Na)	1,000 s. tons.	(NA)	158.8	108.6	62.6	(D)	(D)
	Sodium compounds, n.e.c.:							
28197 24	Borate (borax) technical grade only, bulk and packaged, excluding anhydrous and pentahydrate forms ($Ha_2B_4O_7.10H_2O$)	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28197 27	Chlorate (100 percent $NaClO_3$)		(NA)	251.1	236.4	70.9	(D)	(D)
28197 28	Fluoride		(NA)	(D)	(D)	(D)	(D)	(D)
28197 29	Hydrosulfide (sodium sulfhydrate) (100 percent NaSH)		(NA)	19.6	20.0	5.3	(D)	(D)
28197 30	Hydrosulfite (100 percent $Na_2S_2O_4$)		(NA)	63.6	(D)	(D)	(D)	(D)
	Phosphate:							
28197 32	Monobasic (100 percent NaH_2PO_4)		(NA)	[32]47.4	29.6	12.3	(D)	(D)
28197 33	Dibasic (100 percent Na_2HPO_4)		(NA)	[32]31.0	20.0	9.4	(D)	(D)
28197 34	Tribasic (100 percent Na_3PO_4)		(NA)	64.8	65.1	21.8	(D)	(D)
28197 35	Tetrabasic (100 percent $Na_4P_2O_7$)		(NA)	40.6	38.7	16.9	(D)	(D)
28197 36	Meta (100 percent $NaPO_3$)		(NA)	65.4	62.7	32.3	(D)	(D)
28197 37	Acid pyro (100 percent $Na_2H_2P_2O_7$)		(NA)	29.0	28.4	15.3	(D)	(D)
28197 38	Tripoly (100 percent $Na_5P_3O_{10}$)	1,000 s. tons.	(NA)	717.4	705.0	293.3	(D)	(D)
28197 39	Other sodium phosphates		(NA)	(X)	(X)	([33])	(X)	(X)
	Silicates:							
28197 41	Soluble silicate glass (water glass) solid and liquid (anhydrous)	1,000 s. tons.	(NA)	[34]760.0	565.4	107.6	(D)	(D)
28197 43	Metasilicate (100 percent $Na_2SiO_3.5H_2O$)		(NA)	174.7	149.4	34.1	(D)	(D)
28197 45	Orthosilicate (100 percent Na_4SiO_4)		(NA)	33.0	34.2	8.4	(D)	(D)
28197 51	Silicofluoride (100 percent Na_2SiF_6)		(NA)	59.1	56.9	7.9	(D)	(D)
	Sulfate:							
28197 61	High purity (refined) (100 percent Na_2SO_4)		(NA)	522.0	510.7	28.9	(D)	(D)
28197 65	Low purity (99 percent or less Na_2SO_4) (100 percent Na_2SO_4)		(NA)					
28197 67	Glauber's salt (100 percent $Na_2SO_4.10H_2O$)	1,000 s. tons.	(NA)	676.8	645.0	28.0	(D)	(D)

See footnotes at end of table.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments[23] Quantity	Total product shipments[23] Value (million dollars)	Commercial product shipments Quantity	Commercial product shipments Value (million dollars)
			1977--Con.					
	INDUSTRIAL INORGANIC CHEMICALS, N.E.C.--Con.							
	Potassium and sodium compounds, except bleaches, alkalies, and alums--Con.							
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals--Con.							
	Sodium compounds, n.e.c.--Con.							
	Sulfide:							
28197 81	Crystal	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28197 82	Concentrated (60 to 62 percent Na_2S)	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28197 83	Other, including liquid and crystal (60 to 62 percent Na_2S)	1,000 s. tons.	(NA)	(D)	(D)	20.4	(D)	(D)
28197 84	Sulfite (100 percent Na_2SO_3)	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28197 85	Thiosulfate (hypo) (100 percent $Na_2S_2O_3.5H_2O$)	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28197 87	Other sodium compounds, n.e.c., including sodium bisulfate, bifluoride, bromide, cyanide, peroxide, sesquisilicate, and other sodium phosphates	.....	(NA)	(X)	(X)	[33]330.5	(X)	(X)
28198 --	Inorganic chemical catalytic preparations:							
	As reported in census of manufactures	.....	37	(X)	(X)	398.4	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(NA)	(X)	(X)	392.8	(X)	(X)
28199 --	Other inorganic chemicals, n.e.c.:[35]							
	As reported in census of manufactures	.....	(NA)	(X)	(X)	3,375.3	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(NA)	(X)	(X)	2,773.2	(X)	(X)
	Inorganic bleaching compounds:							
28199 41	Calcium hypochlorite:							
	As reported in census of manufactures	.....	8	(X)	(X)	([36])	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	1,000 s. tons.	(NA)	(D)	(D)	([37])	(D)	(D)
	Other industrial bleaches:							
	As reported in census of manufactures	.....	8	(X)	(X)	25.8	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(NA)	(X)	(X)	26.5	(X)	(X)
28199 93	Bleaching powder (chloride of lime)	.....	(NA)	(X)	(X)	-	(X)	(X)
28199 94 28199 95	Industrial bleaches, including liquid lime bleaches	.....	(NA)	(X)	(X)	27.8	(X)	(X)
28199 30	Other inorganic chemicals, n.e.c.:[35]							
	As reported in census of manufactures	.....	167	(X)	(X)[36]	[38]3,349.5	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(NA)	(X)	(X)	2,745.4	(X)	(X)
28199 01	Reagent and high purity grades of inorganic chemicals refined from purchased technical grades	.....	(NA)	(X)	(X)	42.6	(X)	(X)
28199 02	Antimony compounds, excluding pigment grades	.....	(NA)	(X)	(X)	17.7	(X)	(X)
28199 03	Arsenic compounds, including white arsenic	.....	(NA)	(X)	(X)	(D)	(X)	(X)
	Barium compounds:							
28199 04	Carbonate (precipitated) (100 percent $BaCO_3$)	1,000 s. tons.	(NA)	35.4	35.8	10.7	(D)	(D)
28199 06	Other barium compounds, including barium chloride, nitrate, peroxide, and sulfide[39]	.....	(NA)	(X)	(X)	17.4	(X)	(X)
	Bismuth compounds:							
28199 07	Subcarbonate (100 percent $(Bi_2O_2CO_3)_2.H_2O$)	1,000 s. tons.	(NA)	(Z)	(Z)	.5	(Z)	(Z)
28199 09	Other bismuth compounds	.....	(NA)	(X)	(X)	1.7	(X)	(X)
28199 10	Bromine (isolated) (100 percent Br)	1,000 s. tons.	(NA)	163.8	57.2	23.7	(D)	(D)
28199 11	Cadium compounds	.....	(NA)	(X)	(X)	9.3	(X)	(X)
	Calcium compounds:							
28199 12	Carbide (commercial)	1,000 s. tons.	(NA)	251.6	239.4	56.5	(D)	(D)
28199 13	Carbonate (precipitated) (100 percent $CaCO_3$)	1,000 s. tons.	(NA)	175.2	(D)	(D)	(D)	(D)
	Chloride:							
28199 14	Solid (73 to 75 percent $CaCl_2$)	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28199 15	Flake (77 to 80 percent $CaCl_2$)	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28199 16	Liquid (40 to 45 percent $CaCl_2$)	1,000 s. tons.	(NA)	[40]562.9	534.5	10.8	(D)	(D)
	Phosphate:							
	Dibasic (100 percent $CaHPO_4$):							
28199 19	Animal feed grades	1,000 s. tons.	(NA)	699.3	666.1	118.0	(D)	(D)
28199 20	Other grades, except fertilizer grades	1,000 s. tons.	(NA)					
28199 18	Monobasic	.....	(NA)	(X)	(X)	(D)	(X)	(X)
28199 21	Tribasic	.....	(NA)					
28199 23	Other inorganic calcium compounds	.....	(NA)	(X)	(X)	[37]115.1	(X)	(X)
	Carbon, activated:							
28199 24	Decolorizing	1,000 s. tons.	(NA)	49.5	50.5	40.5	(D)	(D)
28199 25	Deodorizing	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28199 26	Water purification	1,000 s. tons.	(NA)	29.6	23.9	14.0	-	-
28199 27	Solvent recovery and gas absorption	1,000 s. tons.	(NA)	8.5	9.6	11.3	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments[23] Quantity	Total product shipments[23] Value (million dollars)	Commercial product shipments Quantity	Commercial product shipments Value (million dollars)
					1977--Con.			
	INDUSTRIAL INORGANIC CHEMICALS, N.E.C.--Con.							
28199 --	Other inorganic chemicals, n.e.c.--Con. As reported in Current Industrial Reports MA-28A, Inorganic Chemicals--Con. Other inorganic chemicals, n.e.c.--Con.							
	Chromium compounds:							
	Bichromates and chromates:							
28199 29 28199 31	Sodium bichromate and chromate (hydrous)...	1,000 s. tons.	(NA)	156.8	100.6	56.4	(D)	(D)
28199 32	Other chromium compounds, including potassium bichromate and excluding pigment grades.....	.....	(NA)	(X)	(X)	11.8	(X)	(X)
28199 33	Cobalt compounds.....	.....	(NA)	(X)	(X)	(D)	(X)	(X)
	Copper compounds:							
28199 34	Cupric oxide (100 percent CuO).....	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)
28199 35	Cuprous oxide (100 percent Cu_2O).....	↕	(NA)	3.5	3.5	5.8	(D)	(D)
28199 36	Copper sulfate (100 percent $CuSO_4.5H_2O$).....	1,000 s. tons.	(NA)	(D)	(D)	(41)	(D)	(D)
28199 37	Other copper compounds, including copper cyanide.....	.....	(NA)	(X)	(X)	41 31.7	(X)	(X)
28199 39	Hydrogen peroxide (100 percent by weight).....	1,000 s. tons.	(NA)	42 93.7	81.5	63.0	(D)	(D)
28199 40	Iodine, crude or resublimed (100 percent I)....	1,000 lb.....	(NA)	(S)	(S)	1.6	(D)	(D)
	Iron compounds:							
28199 42	Ferric chloride (100 percent $FeCl_3$).....	1,000 s. tons.	(NA)	81.0	81.2	10.0	(D)	(D)
28199 43	Ferrous sulfate (100 percent $FeSO_4.7H_2O$).....	1,000 s. tons.	(NA)	(D)	(D)	(43)	(D)	(D)
28199 44	Other iron compounds[39].....	.....	(NA)	(X)	(X)	43 8.0	(X)	(X)
28199 45	Lead nitrate.....	.....	(NA)	(X)	(X)	(D)	(X)	(X)
28199 47	Other lead compounds, excluding pigment grade..	.....	(NA)					
28199 48	Magnesium sulfate, including epsom salts.....	.....	(NA)	(X)	(X)	78.1	(X)	(X)
28199 49	Other magnesium compounds.....	.....	(NA)					
	Manganese compounds:							
28199 50	Manganese sulfate (100 percent $NaSO_4.4H_2O$)...	1,000 s. tons.	(NA)	(D)	(D)	(44)	(D)	(D)
28199 51 28199 52	Other manganese compounds, including potassium and other permanganates and manganese dioxide, battery grade.....	.....	(NA)	(X)	(X)	44 43.4	(X)	(X)
	Mercury and compounds:							
28199 53	Mercury, redistilled.....	1,000 lb.....	(NA)	555.6	484.9	1.3	484.9	1.3
28199 55	Other mercuric compounds, including mercuric oxide, excluding mercuric fulminate and medicinal grades.....	.....	(NA)	(X)	(X)	1.2	(X)	(X)
	Nickel compounds:							
28199 56	Sulfate (100 percent $NiSO_4.6H_2O$).....	1,000 s. tons.	(NA)	7.0	(D)	(D)	(D)	(D)
28199 57	Other nickel compounds.....	.....	(NA)	(X)	(X)	12.2	(X)	(X)
	Phosphorus and compounds:							
	Phosphorus elemental:							
28199 58	White (yellow), technical.....	1,000 s. tons.	(NA)	430.3	423.6	461.0	80.8	92.1
28199 59	Red, technical.....	↕	(NA)					
28199 60	Oxychloride (100 percent $POCl_3$).....		(NA)	35.6	16.9	11.9	(D)	(D)
28199 63	Trichloride (chloride) (100 percent PCl_3)....		(NA)	94.7	51.3	33.2	(D)	(D)
28199 61	Pentasulfide (100 percent P_2S_5).....	1,000 s. tons.	(NA)	79.2	67.3	44.5	(D)	(D)
28199 64	Other phosphorus compounds, including phosphorus pentoxide.....	.....	(NA)	(X)	(X)	(45)	(X)	(X)
28199 65	Rare earth compounds.....	.....	(NA)	(X)	(X)	18.6	(X)	(X)
28199 66	Selenium compounds.....	.....	(NA)	(X)	(X)	(D)	(X)	(X)
28199 68 28199 69 28199 70	Silica gel.....	.....	(NA)	(X)	(X)	(D)	(X)	(X)
	Silver compounds:							
28199 71	Cyanide (100 percent AgCN).....	1,000 av. oz..	(NA)	(D)	(D)	(46)	(D)	(D)
28199 72	Nitrate (100 percent $AgNO_3$)[47].....	1,000 av. oz..	(NA)	(D)	(D)	(46)	(D)	(D)
28199 73	Other silver compounds.....	.....	(NA)	(X)	(X)	46 62.5	(X)	(X)
28199 74	Sulfur, recovered elemental[48].....	1,000 l. tons.	(NA)	3,567.0	3,570.0	133.8	(NA)	(NA)
	Sulfur compounds:							
28199 75	Dioxide (produced for sale) (100 percent SO_2)	1,000 l. tons.	(NA)	152.9	151.4	18.4	(D)	(D)
28199 77	Other sulfur compounds, including sulfur chloride.....	.....	(NA)	(X)	(X)	34.8	(X)	(X)
	Tin compounds:							
28199 80	Oxide (stannic) (100 percent SnO_2).....	1,000 s. tons.	(NA)	(D)	(D)	(49)	(D)	(D)
28199 81	Other tin compounds, including stannic and stannous chloride.....	.....	(NA)	(X)	(X)	49 46.2	(X)	(X)
	Zinc compounds:							
28199 87	Sulfate (100 percent $ZnSO_4.7H_2O$).....	1,000 s. tons.	(NA)	29.2	20.1	9.1	(D)	(D)
28199 88	Other zinc compounds, including chloride, hydrosulfite, and phosphide.....	.....	(NA)	(X)	(X)	27.4	(X)	(X)
28199 90	Molybdenum, platinum, radium, strontium, tantalum, thallium, and tungsten compounds.....	.....	(NA)	(X)	(X)	278.5	(X)	(X)
28199 91	Radioactive isotopes shipped from non-AEC plants producing isotopes[50].....	.....	(NA)	(X)	(X)	(NA)		(X)
28199 92	Radiation sources and other radioactive materials produced from purchased isotopes[50].....	.....	(NA)	(X)	(X)	(NA)	(X)	(X)
28199 98	All other inorganic chemicals, n.e.c.....	.....	(NA)	(X)	(X)	45 443.1	(X)	(X)

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1972 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments[23] Quantity	Total product shipments[23] Value (million dollars)	Commercial product shipments Quantity	Commercial product shipments Value (million dollars)
	INDUSTRIAL INORGANIC CHEMICALS, N.E.C.--Con.		1977--Con.					
28190 00	Industrial inorganic chemicals, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	76.0	(X)	(X)
28190 02	Industrial inorganic chemicals, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	36.8	(X)	(X)
			1972					
2819- --	INDUSTRIAL INORGANIC CHEMICALS, N.E.C.							
	As reported in census of manufactures	.....	(X)	(X)	(X)	r3,008.8	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals[24]	.....	(X)	(X)	(X)	3,095.3	(X)	(X)
28193 --	Sulfuric acid:							
	As reported in census of manufactures	.....	(X)	(X)	(X)	245.4	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	1,000 s. tons.	(X)	31,183.9	13,061.5	238.0	11,748.4	217.0
	Contact acid:							
28193 11	Oleum under 40 percent[25]		(X)	1,845.6	1,391.9	28.5	(D)	(D)
28193 15	Oleum 40 percent[25]		(X)	534.6	(D)	(D)	(D)	(D)
28193 17	Oleum over 40 percent[25]		(X)	516.7	(D)	(D)	(D)	(D)
28193 31	Other than oleum grades[25]		(X)	28,438.2	11,135.4	198.5	10,123.8	182.5
28193 51	Chamber acid[25]		(X)	142.8	26.5	.3	21.5	.3
28193 71	Spent acid used in fortification in contact units and included in production reported above, including acid from own production or received from outside sources[25]	1,000 s. tons.	(X)	1,203.4	(X)	(X)	(X)	(X)
28194 --	Inorganic acids, except nitric, and sulfuric, and phosphoric:							
	As reported in census of manufactures	.....	(X)	(X)	(X)	160.4	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(X)	(X)	(X)	195.0	(X)	(X)
28194 11	Boric (boraic) (100 percent H_3BO_3)	1,000 s. tons.	(X)	121.5	106.4	11.1	(D)	(D)
28194 31	Chromic acid (100 percent CrO_3)		(X)	27.1	27.9	15.8	(D)	(D)
	Hydrochloric acid, including anhydrous (100 percent HCL)[28]		(X)	2,334.8	872.5	39.3	(D)	(D)
28194 41	From salt		(X)	113.8	96.4	4.2	(D)	(D)
28194 45	From chlorine		(X)	102.9	96.5	3.7	(D)	(D)
28194 47	Byproduct and other		(X)	2,118.2	679.5	31.4	630.0	28.8
28194 51	Hydrocyanic, including anhydrous (100 percent HCN)		(X)	135.8	(D)	([29])	(D)	(D)
	Hydrofluoric (100 percent HF):							
	Produced and withdrawn from system:							
28194 61	Anhydrous		(X)	241.1	165.9	52.7	(D)	(D)
28194 65	Aqueous		(X)	7.8	17.0	7.9	(D)	(D)
28194 66	Produced but not withdrawn from system (estimated)		(X)	93.3	(X)	(X)	(X)	(X)
28194 67	Mixed (sulfuric and nitric)		(X)	204.5	(D)	([29])	(D)	(D)
28194 98	Other inorganic acids, n.e.c.	1,000 s. tons.	(X)	(X)	(X)	[29]29.1	(X)	(X)
28195 --	Aluminum oxide, except natural alumina (100 percent Al_2O_3):							
	As reported in census of manufactures	.....	(X)	(X)	(X)	388.6	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	1,000 s. tons.	(X)	6,204.4	5,937.4	387.9	1,484.7	118.2
28196 --	Other aluminum compounds:							
28196 00	As reported in census of manufactures	.....	(X)	(X)	(X)	175.5	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(X)	(X)	(X)	179.6	(X)	(X)
	Chloride:							
28196 11	Liquid (32°Be^1)	1,000 s. tons.	(X)	(D)	(D)	([30])	(D)	(D)
28196 15	Crystal (32°Be^1)		(X)					
28196 17	Anhydrous (100 percent $AlCl_3$)		(X)	33.4	32.4	8.9	(D)	(D)
28196 25	Hydroxide; trihydrate (100 percent $Al_2O_3.3H_2O$)		(X)	529.3	502.6	47.2	(D)	(D)
28196 27	Fluoride (technical)		(X)	138.9	136.5	36.1	49.8	15.5
	Sulfate:							
28196 51	Commercial (17 percent Al_2O_3)		(X)	[31]1,256.3	1,194.1	51.6	1,190.5	51.5
28196 55	Iron free (17 percent Al_2O_3)	1,000 s. tons.	(X)	139.1	116.6	4.3	(D)	(D)
28196 71	Other inorganic aluminum compounds, including sodium aluminate, light aluminum hydroxide, cryolite, and alums	.....	(X)	(X)	(X)	[30]31.6	(X)	(X)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1972 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments[1]		Commercial product shipments	
					Quantity	Value (million dollars)	Quantity	Value (million dollars)
			1972--Con.					
	INDUSTRIAL INORGANIC CHEMICALS, N.E.C.--Con.							
28197 --	Potassium and sodium compounds, except bleaches, alkalies, and alums:							
28197 00	As reported in census of manufactures	.....	(X)	(X)	(X)	503.1	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(X)	(X)	(X)	662.0	(X)	(X)
	Potassium compounds, n.e.c.:							
28197 13	Iodide (100 percent KI)	1,000 s. tons.	(X)	1.1	1.0	4.5	1.0	4.5
28197 16	Sulfate (100 percent K_2SO_4)		(X)	402.2	382.0	16.4	(D)	(D)
28197 18	Pyrophosphate (tetrapotassium pyrophosphate) (100 percent $K_4P_2O_7$)	1,000 s. tons.	(X)	49.2	24.9	5.0	(D)	(D)
28197 17	Other potassium salts and compounds, n.e.c., including potassium bromide, chlorate, nitrate, and perchlorate	.....	(X)	(X)	(X)	95.1	(X)	(X)
28197 21	Sodium (metal) (100 percent Na)	1,000 s. tons.	(X)	160.5	109.6	37.2	(D)	(D)
	Sodium compounds, n.e.c.:							
28197 24	Borate (borax) technical grade only, bulk and packaged, excluding anhydrous and pentahydrate forms ($Ha_2B_4O_7.10H_2O$)		(X)	549.9	166.3	10.4	(D)	(D)
28197 27	Chlorate (100 percent $NaClO_3$)		(X)	193.8	130.4	16.7	(D)	(D)
28197 28	Fluoride		(X)	6.2	5.8	2.2	(D)	(D)
28197 29	Hydrosulfide (sodium sulfhydrate) (100 percent NaSH)		(X)	28.1	25.8	2.9	(D)	(D)
28197 30	Hydrosulfite (100 percent $Na_2S_2O_4$)		(X)	46.7	46.9	22.9	46.9	22.9
	Phosphate:							
28197 32	Monobasic (100 percent NaH_2PO_4)		(X)	[32]33.6	33.6	7.1	(D)	(D)
28197 33	Dibasic (100 percent Na_2HPO_4)		(X)	[32]20.8	20.9	4.9	(D)	(D)
28197 34	Tribasic (100 percent Na_3PO_4)		(X)	57.9	59.2	10.5	(D)	(D)
28197 35	Tetrabasic (100 percent $Na_4P_2O_7$)		(X)	46.4	47.8	8.7	(D)	(D)
28197 36	Meta (100 percent $NaPO_3$)		(X)	79.5	79.5	16.7	(D)	(D)
28197 37	Acid pyro (100 percent $Na_2H_2P_2O_7$)		(X)	27.2	26.4	6.7	(D)	(D)
28197 38	Tripoly (100 percent $Na_5P_3O_{10}$)	1,000 s. tons.	(X)	1,032.7	1,025.9	143.6	(D)	(D)
28197 39	Other sodium phosphates	.....	(X)	(X)	(X)	[33]	(X)	(X)
	Silicates:							
28197 41	Soluble silicate glass (water glass) solid and liquid (anhydrous)	1,000 s. tons.	(X)	[34]660.6	490.8	46.1	(D)	(D)
28197 43	Metasilicate (100 percent $Na_2SiO_3.5H_2O$)		(X)	[51]276.9	[51]214.3	[51]21.1	(D)	(D)
28197 45	Orthosilicate (100 percent Na_4SiO_4)		(X)	([51])	([51])	([51])	(D)	(D)
28197 51	Silicofluoride (100 percent Na_2SiF_6)		(X)	57.4	54.2	6.3	(D)	(D)
	Sulfate:							
28197 61	High purity (refined) (100 percent Na_2SO_4)		(X)	800.5	845.1	16.9	(D)	(D)
28197 65	Low purity (99 percent or less Na_2SO_4) (100 percent Na_2SO_4)		(X)	526.5	505.6	11.1	(D)	(D)
28197 67	Glauber's salt (100 percent $Na_2SO_4.10H_2O$)		(X)					
	Sulfide:							
28197 81	Crystal		(X)					
28197 82	Concentrated (60 to 62 percent Na_2S)		(X)	143.6	128.0	4.8	128.0	4.8
28197 83	Other, including liquid and crystal (60 to 62 percent Na_2S)		(X)					
28197 84	Sulfite (100 percent Na_2SO_3)		(X)	223.3	219.2	9.4	(D)	(D)
28197 85	Thiosulfate (hypo) (100 percent $Na_2S_2O_3.5H_2O$)	1,000 s. tons.	(X)	21.6	24.0	2.7	23.4	2.6
28197 87	Other sodium compounds, n.e.c., including sodium bisulfate, bifluoride, bromide, cyanide, peroxide, sesquisilicate, and other sodium phosphates	.....	(X)	(X)	(X)	[33]131.4	(X)	(X)
28198 --	Chemical catalytic preparations:							
	As reported in census of manufactures	.....	(X)	(X)	(X)	172.8	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(X)	(X)	(X)	158.5	(X)	(X)
28199 --	Other inorganic chemicals, n.e.c.:							
	As reported in census of manufactures	.....	(X)	(X)	(X)	1,334.6	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(X)	(X)	(X)	1,311.7	(X)	(X)
	Inorganic bleaching compounds:							
28199 41	Calcium hypochlorite:							
	As reported in census of manufactures	.....	(X)	(X)	(X)	([36])	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	1,000 s. tons.	(X)	(D)	(D)	([37])	(D)	(D)
	Other industrial bleaches:							
	As reported in census of manufactures	.....	(X)	(X)	(X)	([36])	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(X)	(X)	(X)	5.8	(X)	(X)
28199 93	Bleaching powder (chloride of lime)	.....	(X)	(X)	(X)	-	(X)	(X)
28199 94 28199 95	Industrial bleaches, including liquid lime bleaches	.....	(X)	(X)	(X)	5.8	(X)	(X)

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1972 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments[1] Quantity	Total product shipments[1] Value (million dollars)	Commercial product shipments Quantity	Commercial product shipments Value (million dollars)
					1972--Con.			
	INDUSTRIAL INORGANIC CHEMICALS, N.E.C.--Con.							
	Other inorganic chemicals, n.e.c.--Con.							
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals--Con.							
28199 30	Other inorganic chemicals, n.e.c.:							
	As reported in census of manufactures	.....	(X)	(X)	(X)	[36] [38] 1,334.6	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	.....	(X)	(X)	(X)	1,305.9	(X)	(X)
28199 01	Reagent and high purity grades of inorganic chemicals refined from purchased technical grades	.....	(X)	(X)	(X)	44.5	(X)	(X)
28199 02	Antimony compounds, excluding pigment grades	.....	(X)	(X)	(X)	7.4	(X)	(X)
28199 03	Arsenic compounds, including white arsenic	.....	(X)	(X)	(X)	2.1	(X)	(X)
	Barium compounds:							
28199 04	Carbonate (precipitated) (100 percent $BaCO_3$)	1,000 s. tons.	(X)	47.7	38.7	5.4	37.5	5.4
28199 06	Other barium compounds, including barium chloride, nitrate, peroxide, and sulfide[39]	.....	(X)	(X)	(X)	8.1	(X)	(X)
	Bismuth compounds:							
28199 07	Subcarbonate (100 percent $(Bi_2O_2CO_3)_2.H_2O$)	1,000 s. tons.	(X)	(Z)	(Z)	.3	(Z)	(Z)
28199 09	Other bismuth compounds	.....	(X)	(X)	(X)	2.2	(X)	(X)
28199 10	Bromine (isolated) (100 percent Br)	1,000 s. tons.	(X)	(NA)	50.2	14.1	(D)	(D)
28199 11	Cadium compounds	.....	(X)	(X)	(X)	8.4	(X)	(X)
	Calcium compounds:							
28199 12	Carbide (commercial)	1,000 s. tons.	(X)	493.4	355.0	37.2	(D)	(D)
28199 13	Carbonate (precipitated) (100 percent $CaCO_3$)		(X)	220.9	195.7	12.2	(D)	(D)
	Chloride:							
28199 14	Solid (73 to 75 percent $CaCl_2$)		(X)	650.2	666.8	26.1	(D)	(D)
28199 15	Flake (77 to 80 percent $CaCl_2$)		(X)					
28199 16	Liquid (40 to 45 percent $CaCl_2$)		(X)	[40] 499.3	377.0	3.7	(D)	(D)
	Phosphate:							
	Dibasic (100 percent $CaHPO_4$):							
28199 19	Animal feed grades		(X)	599.0	587.5	52.9	(D)	(D)
28199 20	Other grades, except fertilizer grades	1,000 s. tons.	(X)					
28199 18	Monobasic	.....	(X)	(X)	(X)	9.7	(X)	(X)
28199 21	Tribasic	.....	(X)					
28199 23	Other inorganic calcium compounds	.....	(X)	(X)	(X)	[37] 35.8	(X)	(X)
	Carbon, activated:[52]							
28199 24	Decolorizing	1,000 s. tons.	(X)	83.4	80.5	28.5	(D)	(D)
28199 26	Water purification		(X)					
	Chromium compounds:							
	Bichromates and chromates:							
28199 29 28199 31	Sodium bichromate and chromate (hydrous)	1,000 s. tons.	(X)	146.7	95.9	24.5	(D)	(D)
28199 32	Other chromium compounds, including potassium bichromate and excluding pigment grades	.....	(X)	(X)	(X)	8.9	(X)	(X)
28199 33	Cobalt compounds	.....	(X)	(X)	(X)	10.8	(X)	(X)
	Copper compounds:							
28199 34	Cupric oxide (100 percent CuO)	1,000 s. tons.	(X)	1.9	1.6	1.4	(D)	(D)
28199 35	Cuprous oxide (100 percent Cu_2O)		(X)	1.9	1.9	2.0	(D)	(D)
28199 36	Copper sulfate (100 percent $CuSO_4.5H_2O$)	1,000 s. tons.	(X)	(D)	(D)	([41])	(D)	(D)
28199 37	Other copper compounds, including copper cyanide	.....	(X)	(X)	(X)	[41] 23.5	(X)	(X)
28199 39	Hydrogen peroxide (100 percent by weight)	1,000 s. tons.	(X)	[42] 75.3	56.5	31.0	(D)	(D)
28199 40	Iodine, crude or resublimed (100 percent I)	1,000 lb.	(X)	(S)	(S)	1.5	(D)	(D)
	Iron compounds:							
28199 42	Ferric chloride (100 percent $FeCl_3$)	1,000 s. tons.	(X)	78.0	73.2	5.8	(D)	(D)
28199 43	Ferrous sulfate (100 percent $FeSO_4.7H_2O$)	1,000 s. tons.	(X)	(D)	(D)	([43])	(D)	(D)
28199 44	Other iron compounds[39]	.....	(X)	(X)	(X)	[43] 3.8	(X)	(X)
28199 45	Lead nitrate	.....	(X)	(X)	(X)	21.6	(X)	(X)
28199 47	Other lead compounds, excluding pigment grade	.....	(X)					
28199 48	Magnesium sulfate, including epsom salts	.....	(X)	(X)	(X)	41.6	(X)	(X)
28199 49	Other magnesium compounds	.....	(X)					
	Manganese compounds:							
28199 50	Manganese sulfate (100 percent $NaSO_4.4H_2O$)	1,000 s. tons.	(X)	31.6	33.0	3.1	(D)	(D)
28199 51 28199 52	Other manganese compounds, including potassium and other permanganates and manganese dioxide, battery grade	.....	(X)	(X)	(X)	13.5	(X)	(X)
	Mercury and compounds:							
28199 53	Mercury, redistilled	1,000 lb.	(X)	345.2	350.2	1.3	350.2	1.3
28199 55	Other mercuric compounds, including mercuric oxide, excluding mercuric falminate and medicinal grades	.....	(X)	(X)	(X)	2.1	(X)	(X)
	Nickel compounds:							
28199 56	Sulfate (100 percent $NiSO_4.6H_2O$)	1,000 s. tons.	(X)	10.3	9.3	6.9	9.3	6.9
28199 57	Other nickel compounds	.....	(X)	(X)	(X)	8.3	(X)	(X)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total product shipments[1] Quantity	Total product shipments[1] Value (million dollars)	Commercial product shipments Quantity	Commercial product shipments Value (million dollars)
			1972--Con.					
	INDUSTRIAL INORGANIC CHEMICALS, N.E.C.--Con.							
	Other inorganic chemicals, n.e.c.--Con.							
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals--Con.							
	Other inorganic chemicals, n.e.c.--Con.							
	Phosphorus and compounds:							
	Phosphorus elemental:							
28199 58	White (yellow), technical	1,000 s. tons.	(X)	540.8	512.1	190.2	29.1	11.3
28199 59	Red, technical		(X)					
28199 60	Oxychloride (100 percent $POCl_3$)		(X)	34.6	18.3	4.2	(D)	(D)
28199 63	Trichloride (chloride) (100 percent PCl_3)		(X)	63.6	32.6	6.1	(D)	(D)
28199 61	Pentasulfide (100 percent P_2S_5)	1,000 s. tons.	(X)	61.2	49.5	10.9	(D)	(D)
28199 64	Other phosphorus compounds, including phosphorus pentoxide		(X)	(X)	(X)	(45)	(X)	(X)
28199 65	Rare earth compounds		(X)	(X)	(X)	20.1	(X)	(X)
28199 66	Selenium compounds		(X)	(X)	(X)	1.8	(X)	(X)
28199 68 28199 69 28199 70	Silica gel		(X)	(X)	(X)	64.4	(X)	(X)
	Silver compounds:							
28199 71	Cyanide (100 percent AgCN)	1,000 av. oz.	(X)	1.7	1.6	2.0	1.6	2.0
28199 72	Nitrate (100 percent $AgNO_3$)[47]	1,000 av. oz.	(X)	109.3	44.8	8.4	44.8	8.4
28199 73	Other silver compounds		(X)	(X)	(X)	16.9	(X)	(X)
28199 74	Sulfur, recovered elemental[48]	1,000 l. tons.	(X)	1,950.0	1,927.0	30.1	(S)	(S)
	Sulfur compounds:							
28199 75	Dioxide (produced for sale) (100 percent SO_2)	1,000 l. tons.	(X)	100.2	97.6	5.7	(D)	(D)
28199 77	Other sulfur compounds, including sulfur chloride		(X)	(X)	(X)	13.8	(X)	(X)
	Tin compounds:							
28199 80	Oxide (stannic) 100 percent SnO_2)	1,000 s. tons.	(X)	(D)	(D)	(49)	(D)	(D)
28199 81	Other tin compounds, including stannic and stannous chloride		(X)	(X)	(X)	49 19.8	(X)	(X)
	Zinc compounds:							
28199 87	Sulfate (100 percent $ZnSO_4.7H_2O$)	1,000 s. tons.	(X)	44.7	46.1	6.8	(D)	(D)
28199 88	Other zinc compounds, including chloride, hydrosulfite and phosphide		(X)	(X)	(X)	13.6	(X)	(X)
28199 90	Molybdenum, platinum, radium, strontium, tantalum, thallium, and tungsten compounds		(X)	(X)	(X)	107.6	(X)	(X)
28199 91	Radioactive isotopes shipped from non-AEC plants producing isotopes[50]		(X)	(X)	(X)	30.8	(X)	(X)
28199 92	Radiation sources and other radioactive materials produced from purchased isotopes[50]		(X)	(X)	(X)	16.4	(X)	(X)
28199 98	All other inorganic chemicals, n.e.c.		(X)	(X)	(X)	45 52 224.7	(X)	(X)
28190 00	Industrial inorganic chemicals, n.e.c., n.s.k. (see note)		(X)	(X)	(X)	r28.4	(X)	(X)

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. rRevised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]Includes quantities liquefied for use, storage, or shipments.

[3]Ammonia soda and caustic carbonation processes.

[4]Includes quantities used to manufacture caustic soda, finished sodium bicarbonate, finished light and dense soda ash, calcium carbonate, etc.

[5]Quantity figures reported in terms of soda ash processed to refined bicarbonate.

[6]Includes quantities later evaporated to solid caustic and reported as such.

[7]Includes some liquid shipped as interplant transfers to other establishments for further processing to dry forms.

[8]Includes unspecified amounts produced from liquid caustic received from other establishments.

[9]Includes potassium carbonate, modified sodas, electrolytic soda ash, sodium carbonate (monohydrate), and sal soda; excludes products classified as alkaline detergents.

[10]Excludes quantities converted to finished dense soda ash and finished bicarbonate.

[11]Excludes value for helium produced in government owned plants.

[12]Excludes information for railroad ships, shipyards, welding shops, and small establishments using portable generators.

[13]For 1977, data for acetylene produced for consumption in some plants were combined with data for acetylene produced for pipeline shipment (excluding that shipped to be compressed) to avoid disclosing operations of individual companies.

Footnotes continued on next page.

[14]Excludes production of liquid and gas carbon dioxide converted to and reported as dry ice and also amounts converted from pure carbon dioxide (liquid or solid) purchased or received from other plants. Also, excludes quantity produced and consumed in plants manufacturing soda ash or urea and quantity produced and transferred to other plants for further processing.

[15]Excludes amounts produced and consumed in manufacture of synthetic ammonia or ammonia derivatives.

[16]Data for nitrogen and oxygen are combined with other elemental gases and compressed and liquefied gases.

[17]Excludes amounts vented, used as fuel, etc., and amounts produced and consumed in manufacture of synthetic ammonia and methanol, but includes an unspecified amount produced for sale or interplant transfer to plants consuming this gas in production of ammonia. Also, excludes amounts produced by ammonia dissociation process (cracking of ammonia). Also excludes amounts produced in petroleum refineries for captive use.

[18]For 1977, product code 28137 71 was combined with product code 28137 98 to avoid disclosing operations of individual companies.

[19]Excludes hydrocarbon gases such as propane, butane, and propylene, or halogenated hydrocarbons and cyclopropane, which are reported to U.S. International Trade Commission. Also excludes sulfur dioxide, which is classified as primary to industry 2819, and chlorine, primary to industry 2812.

[20]For 1977, for some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[21]For 1972, product code 28162 25 was included with product code 28162 98.

[22]For 1972, product code 28163 61 was included with product code 28163 98.

[23]For 1977, quantity and value reported by all private producers of product, not just those with shipments of $100,000 or more. Value of shipments from government-owned, contractor-operated plants is included in value of industry shipments as miscellaneous receipts.

[24]Includes value of inorganic chemicals shipped by establishments classified in both "manufacturing" and "nonmanufacturing" industries. Value of shipments reported by "nonmanufacturing" establishments classified in mineral industries and Tennessee Valley Authority for industry 2819 amounted to $377.8 million in 1977 and $175.4 million in 1972.

[25]Source: Current Industrial Reports M28A, Supplement 1, Sulfuric Acid. 1972 data include all revised figures published in CIR.

[26]For 1977, product code 28193 51 was combined with product code 28193 31 to avoid disclosing operations of individual companies.

[27]Represents complete coverage of all manufacturing by inclusion of estimates which account for less than 5 percent of total.

[28]For 1977 includes anhydrous hydrochloric acid shipments of 138,238 short tons valued at $20,557 thousand; for 1972, 217,473 short tons valued at $7,943 thousand.

[29]For 1977 and 1972, product codes 28194 51 and 28194 67 were combined with product code 28194 98.

[30]For 1977 and 1972, product codes 28196 11 and 28196 15 were combined with product code 28196 71.

[31]Does not include quantity produced by municipalities. For 1977, that quantity was withheld to avoid disclosing operations of individual companies; for 1972, amount produced by municipalities was 5,023 short tons.

[32]Represents quantities produced only for sale or interplant transfer.

[33]For 1977 and 1972, product code 28197 39 was combined with product code 28197 87.

[34]Excludes quantities consumed in manufacture of meta-, ortho-, and sesqui-silicates. Shipments figures included unspecified amounts shipped to other plants for use in manufacturing these silicates.

[35]For 1977, value of shipments included value of radioactive isotopes, nucleur fuels, and other radiation sources produced in privately owned and operated plants. These shipments are excluded from Current Industrial Reports data for 1977. This accounts for difference between two totals.

[36]For 1977, value of calcium hypochlorite was combined with product code 28199 30. For 1972, value of calcium hypochlorite and other industrial bleaches were combined with product code 28199 30.

[37]For 1977 and 1972, product code 28199 41 was combined with product code 28199 23.

[38]For 1977, value includes $21.4 million shipped by "nonmanufacturing" establishments classified in mineral industries. For 1972, value includes $19.8 million.

[39]Excludes pigment grades.

[40]Excludes quantity of liquid used to produce solid calcium chloride.

[41]For 1977 and 1972, product code 28199 36 was combined with product code 28199 37.

[42]Includes unspecified amounts of hydrogen peroxide produced but not withdrawn from system.

[43]For 1977 and 1972, product code was combined with product code 28199 44.

[44]For 1977, product code 28199 50 was combined with product codes 28199 51 and 28199 52.

[45]For 1977 and 1972, product code 28199 64 was combined with product code 28199 98.

[46]For 1977, product codes 28199 71 and 28199 72 were combined with product code 28199 73.

[47]Includes unspecified amounts produced and shipped on contract basis.

[48]Production and shipments data for 1969-77 were collected by Bureau of Mines.

[49]For 1977 and 1972, product code 28199 80 was combined with product code 28199 81.

[50]For 1977, data are not available; for 1972, data are based on that published in Current Industrial Reports MA-38Q(74)-1, Selected Atomic Energy Products.

[51]For 1972, product code 28197 43 was combined with product code 28197 45.

[52]For 1972, value of activated carbon, deodorizing grade and solvent recovery and gas absorption grade was included with product code 28199 98.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28121, CHLORINE, COMPRESSED OR LIQUEFIED		
United States	520.0	210.2
Middle Atlantic Division:		
New York	27.5	EE
East North Central Division:		
Ohio	18.8	10.9
Michigan	10.4	CC
South Atlantic Division:		
Georgia	21.6	10.7
West South Central Division:		
Louisiana	117.3	42.4
Texas	118.2	33.6
Pacific Division:		
Washington	34.9	EE
28123, SODIUM HYDROXIDE (CAUSTIC SODA)		
United States	997.0	410.9
Middle Atlantic Division:		
New York	33.8	EE
East North Central Division:		
Michigan	38.1	18.6
South Atlantic Division:		
West Virginia	60.4	32.5
Georgia	27.2	13.3
East South Central Division:		
Alabama	39.3	16.6
West South Central Division:		
Louisiana	287.2	100.8
Texas	257.5	96.6
Pacific Division:		
Washington	58.1	22.4
28132, ACETYLENE		
United States	127.9	96.0
Middle Atlantic Division:		
Pennsylvania	3.1	BB
East North Central Division:		
Ohio	5.2	4.8
Illinois	2.8	2.2
South Atlantic Division:		
West Virginia	3.0	(NA)
Georgia	2.3	AA
East South Central Division:		
Tennessee	2.3	1.2
West South Central Division:		
Texas	37.9	26.7
Pacific Division:		
California	3.2	3.9
28133, CARBON DIOXIDE		
United States	103.0	45.7
West North Central Division:		
Iowa	6.0	2.2
Kansas	6.1	BB
East South Central Division:		
Tennessee	5.2	BB
West South Central Division:		
Texas	10.6	AA
Pacific Division:		
California	7.3	BB
28135, NITROGEN (INCLUDING LOWER PURITY)		
United States	278.7	(NA)
Middle Atlantic Division:		
New York	10.5	(NA)
New Jersey	13.5	(NA)
Pennsylvania	21.5	(NA)
East North Central Division:		
Ohio	19.5	(NA)
Illinois	15.9	(NA)
Michigan	3.0	(NA)
West South Central Division:		
Missouri	2.2	(NA)
South Atlantic Division:		
West Virginia	6.4	(NA)
East South Central Division:		
Tennessee	6.0	(NA)
Alabama	13.0	(NA)
West South Central Division:		
Louisiana	14.8	(NA)
Texas	39.3	(NA)
Mountain Division:		
Colorado	3.0	(NA)
Pacific Division:		
California	34.6	(NA)
28136, OXYGEN (INCLUDING LOWER PURITY)		
United States	375.1	(NA)
Middle Atlantic Division:		
New York	15.3	(NA)
New Jersey	5.6	(NA)
Pennsylvania	51.6	(NA)
East North Central Division:		
Illinois	17.9	(NA)
East South Central Division:		
Tennessee	5.3	(NA)
West South Central Division:		
Louisiana	9.9	(NA)
Texas	42.2	(NA)
Pacific Division:		
California	20.4	(NA)
28137, OTHER ELEMENTAL COMPRESSED AND LIQUEFIED GASES		
United States	268.0	(NA)
Middle Atlantic Division:		
New York	2.5	(NA)
New Jersey	7.4	(NA)
Pennsylvania	22.9	(NA)
East North Central Division:		
Ohio	19.8	(NA)
Illinois	5.6	(NA)
Michigan	3.0	(NA)
West North Central Division:		
Kansas	37.4	(NA)
South Atlantic Division:		
Delaware	11.9	(NA)
East South Central Division:		
Tennessee	7.2	(NA)
Alabama	4.4	(NA)
West South Central Division:		
Louisiana	31.5	(NA)
Texas	30.4	(NA)
Pacific Division:		
California	36.7	(NA)

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28162, OTHER WHITE OPAQUE PIGMENTS		
United States	175.9	r99.9
Middle Atlantic Division:		
Pennsylvania	104.0	GG
East North Central Division:		
Illinois	34.6	16.6
28163, CHROME COLORS AND OTHER INORGANIC PIGMENTS		
United States	454.5	283.2
Middle Atlantic Division:		
New York	69.1	61.1
New Jersey	61.5	38.3
Pennsylvania	63.2	33.7
East North Central Division:		
Ohio	36.6	18.2
Illinois	41.3	23.1
Pacific Division:		
California	44.5	19.5
28193, SULFURIC ACID		
United States	427.1	245.4
Middle Atlantic Division:		
New Jersey	27.2	EE
Pennsylvania	18.2	28.1
East North Central Division:		
Ohio	17.5	11.7
Illinois	22.6	CC
West North Central Division:		
Missouri	4.9	BB
South Atlantic Division:		
Virginia	14.2	CC
Georgia	10.3	5.2
Florida	21.2	5.8
West South Central Division:		
Louisiana	51.7	23.4
Texas	60.3	24.8
Mountain Division:		
Arizona	15.7	5.4
Pacific Division:		
Washington	7.4	2.9
California	28.7	18.1
28194, INORGANIC ACIDS, EXCEPT NITRIC, SULFURIC, AND PHOSPHORIC		
United States	364.4	160.4
East North Central Division:		
Ohio	9.3	7.5
Michigan	8.1	(D)
East South Central Division:		
Kentucky	15.6	CC
West South Central Division:		
Louisiana	52.3	EE
Texas	72.6	27.4
Pacific Division:		
California	41.5	EE
28196, OTHER ALUMINUM COMPOUNDS		
United States	312.3	175.5
Middle Atlantic Division:		
New York	10.2	4.7
New Jersey	13.2	BB
East North Central Division:		
Illinois	13.3	7.8
South Atlantic Division:		
Georgia	16.2	4.6
East South Central Division:		
Alabama	13.2	6.9
West South Central Division:		
Louisiana	51.0	FF
Texas	62.2	42.8
28197, OTHER POTASSIUM AND SODIUM COMPOUNDS		
United States	1,102.8	503.1
Middle Atlantic Division:		
New York	64.8	44.4
New Jersey	112.2	67.9
Pennsylvania	41.9	26.8
East North Central Division:		
Ohio	44.5	21.7
Illinois	148.9	57.7
South Atlantic Division:		
Maryland	5.3	BB
Georgia	43.8	16.2
Florida	7.4	4.5
East South Central Division:		
Alabama	36.1	CC
West South Central Division:		
Louisiana	52.1	EE
Texas	43.5	19.7
Pacific Division:		
Washington	8.4	BB
California	91.0	40.1
28198, INORGANIC CHEMICAL CATALYTIC PREPARATIONS		
United States	398.4	172.8
Middle Atlantic Division:		
New Jersey	38.5	28.2
Pennsylvania	13.8	(D)
East North Central Division:		
Ohio	33.1	29.9
Illinois	21.0	CC
East South Central Division:		
Tennessee	23.0	BB
West South Central Division:		
Texas	29.1	EE
Pacific Division:		
California	41.3	8.3

See footnotes at end of table.

Table 6b. **Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28199, OTHER INORGANIC CHEMICALS, N.E.C.		
United States	3,375.3	1,334.6
New England Division:		
Massachusetts	65.4	FF
Middle Atlantic Division:		
New York	169.8	56.8
New Jersey	253.9	121.0
Pennsylvania	373.8	144.6
East North Central Division:		
Ohio	199.0	104.8
Indiana	63.0	CC
Illinois	133.8	56.2
Michigan	108.4	59.2
Wisconsin	3.2	AA
West North Central Division:		
Iowa	46.7	18.4
28199, OTHER INORGANIC CHEMICALS, N.E.C.--Con.		
South Atlantic Division:		
Delaware	20.4	5.2
Maryland	70.1	42.9
North Carolina	208.0	GG
Georgia	24.1	8.4
Florida	49.9	16.0
East South Central Division:		
Kentucky	67.1	40.9
Tennessee	324.8	112.7
Alabama	61.2	FF
West South Central Division:		
Arkansas	45.5	17.3
Louisiana	90.8	33.7
Oklahoma	26.6	18.5
Texas	115.0	32.3
Mountain Division:		
Colorado	17.4	10.3
Pacific Division:		
Washington	11.5	CC
California	104.4	36.6

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified.

r Revised.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2812-	Alkalies and chlorine	1,786.7	1,865.7	1,673.1	1,232.1	875.6	805.7	623.1	526.5
28121	Chlorine, compressed or liquefied	520.0	564.7	495.6	347.2	245.2	210.2	190.8	164.0
28122	Sodium carbonate (soda ash)	189.1	204.4	180.4	172.4	139.5	147.6	140.9	123.6
28123	Sodium hydroxide (caustic soda)	997.0	993.7	909.7	666.4	450.0	410.9	254.9	209.7
28124	Other alkalies	73.9	103.2	84.9	44.4	40.9	33.7	35.2	27.6
28120	Alkalies and chlorine, n.s.k.	6.7	([2])	2.6	1.7	-	3.3	1.3	1.5
2813-	Industrial gases	1,199.1	1,049.3	906.7	793.4	721.1	659.1	543.4	389.6
28132	Acetylene	127.9	132.1	122.8	93.9	73.9	96.0	83.2	93.5
28133	Carbon dioxide	103.0	71.8	62.6	56.9	49.9	45.7	48.0	49.9
28135	Nitrogen (including lower purity)	278.7							
28136	Oxygen (including lower purity)	375.1	820.1	699.6	622.3	556.9	487.2	390.8	244.6
28137	Other elemental compressed and liquefied gases	268.0							
28130	Industrial gases, n.s.k.	46.4	25.3	21.8	20.3	(40.4)	30.2	21.4	1.7
2816-	Inorganic pigments	1,279.8	1,266.9	964.3	1,195.7	893.3	756.2	560.8	480.4
28161	Titanium pigments, composite and pure	627.1	617.9	443.0	534.2	423.7	355.6	298.4	277.3
28162	Other white opaque pigments	175.9	196.8	183.1	227.7	127.3	99.9	65.4	50.4
28163	Chrome colors and other inorganic pigments	454.5	446.1	331.6	393.3	321.6	283.2	189.3	151.8
28160	Inorganic pigments, n.s.k.	22.3	(S)	(S)	(40.5)	20.7	17.5	7.6	0.9
2819-	Industrial inorganic chemicals, n.e.c.	6,920.3	5,750.8	4,674.7	4,609.4	3,513.7	r3,008.8	(NA)	(NA)
28193	Sulfuric acid	427.1	364.8	367.0	315.2	236.0	245.4	250.6	193.9
28194	Inorganic acids, except nitric, sulfuric, and phosphoric	364.4	281.1	205.9	218.9	196.0	160.4	(NA)	(NA)
28195	Aluminum oxide, except natural alumina	827.3	718.4	594.8	622.1	460.9	388.6	402.4	318.5
28196	Other aluminum compounds	312.3	320.1	244.9	234.5	195.9	175.5	127.2	103.8
28197	Other potassium and sodium compounds, n.e.c.	1,102.8	1,074.4	909.5	899.5	582.8	503.1	455.7	513.3
28198	Inorganic chemical catalytic preparations	398.4	391.8	277.6	256.7	205.3	172.8	123.1	75.2
28199	Other inorganic chemicals, n.e.c.	3,375.3	2,561.4	2,050.5	2,050.0	1,622.0	1,r334.6	1,035.5	825.8
28190	Industrial inorganic chemicals, n.e.c., n.s.k.	112.8	(38.7)	24.5	12.5	14.8	r28.4	38.9	11.1

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. r Revised.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Total consumption of materials (quantity)	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant (quantity)
				1977			
	INDUSTRY 2812, ALKALIES AND CHLORINE						
	Materials, parts, containers, and supplies	.....	.....	(X)	(X)	436.1	(X)
	Inorganic chemicals:						
	Acids, except spent acids:						
281944	Hydrochloric acid	100% HCl	1,000 s. tons	146.8	46.3	3.3	100.5
287311	Nitric acid	100% HNO_3	1,000 s. tons	(D)	(D)	(D)	-
287410	Phosphoric acid	100% P_2O_5	1,000 s. tons	(D)	(D)	(D)	-
281931	Sulfuric acid	100% H_2SO_4	1,000 s. tons	(D)	72.1	3.5	(D)
287312	Ammonia, synthetic anhydrous	100% NH_3	1,000 s. tons	(D)	(D)	(D)	(D)
281211	Chlorine	100% Cl	1,000 s. tons	681.7	(D)	(D)	(D)
281996	Phosphorous, elemental	Technical	1,000 s. tons	(D)	-	-	(D)
281228	Sodium carbonate (soda ash)	58% Na_2O	1,000 s. tons	(D)	133.2	9.3	(D)
281238	Sodium hydroxide (caustic soda)	100% NaOH	1,000 s. tons	564.0	6.4	7.1	557.6
289911	Salt in brine	.....	1,000 s. tons	7,567.2	3,433.3	21.0	4,133.9
281301	Acetylene and other industrial gases compressed and liquefied, including argon, carbon dioxide, nitrogen, nitrous oxide, etc	.....	.....	(X)	(X)	(D)	(X)
	Crude materials:						
140107	Crude nonmetallic minerals, including limestone, clay, gypsum, talc, etc., but excluding crude chemical nonmetallic minerals	.....	.....	(X)	(X)	15.4	(X)
147007	Crude chemical nonmetallic minerals, including barite, borate, potash, fluorspar, rock salt, etc., but excluding phosphate rock and pyrites	.....	.....	(X)	(X)	20.8	(X)
	Used as raw materials:						
331210	Coke, including breeze	.....	1,000 s. tons	-	-	-	-
131152	Natural gas	.....	Mil. cu. ft.	(X)	(D)	(D)	(X)
	Other parts, materials, and accessories:						
355911	Parts and attachments for machinery and equipment	.....	.....	(X)	(X)	48.3	(X)
265001	Paperboard boxes and containers	.....	.....	(X)	(X)	7.0	(X)
340001	Metal containers	.....	.....	(X)	(X)	5.2	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	(X)	217.7	(X)
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	.....	(X)	(X)	20.2	(X)
				1972			
	INDUSTRY 2812, ALKALIES AND CHLORINE						
	Materials, parts, containers, and supplies	.....	.....	(X)	(X)	201.1	(X)
	Inorganic chemicals:						
	Acids, except spent acids:						
281944	Hydrochloric acid	100% HCl	1,000 s. tons	158.8	110.5	2.1	48.3
287311	Nitric acid	100% HNO_3	1,000 s. tons	(D)	(D)	(D)	-
287410	Phosphoric acid	100% P_2O_5	1,000 s. tons	-	-	-	-
281931	Sulfuric acid	100% H_2SO_4	1,000 s. tons	75.9	75.9	1.9	-
287312	Ammonia, synthetic, anhydrous	100% NH_3	1,000 s. tons	28.2	(D)	(D)	(D)
281211	Chlorine	100% Cl	1,000 s. tons	869.2	(D)	(D)	(D)
281996	Phosphorous, elemental	Technical	1,000 s. tons	(D)	(D)	(D)	-
281228	Sodium carbonate (soda ash)	58% Na_2O	1,000 s. tons	213.9	29.5	1.0	183.4
281238	Sodium hydroxide (caustic soda)	100% NaOH	1,000 s. tons	270.9	7.4	.4	263.5
289911	Salt in brine	.....	1,000 s. tons	(X)	(X)	(3)	(X)
281301	Acetylene and other industrial gases compressed and liquefied, including argon, carbon dioxide, nitrogen, nitrous oxide, etc	.....	.....	(X)	(X)	(3)	(X)
	Crude materials:						
140107	Crude nonmetallic minerals, including limestone, clay, gypsum, talc, etc., but excluding crude chemical nonmetallic minerals	.....	.....	(X)	(X)	(3)	(X)
147007	Crude chemical nonmetallic minerals, including barite, borate, potash, fluorspar, rock salt, etc., but excluding phosphate rock and pyrites	.....	.....	(X)	(X)	(3)	(X)
	Used as raw materials:						
331210	Coke, including breeze	.....	1,000 s. tons	(X)	(D)	(D)	(X)
131152	Natural gas	.....	Mil. cu. ft.	(X)	7,967.4	3.2	(X)
	Other parts, materials, and accessories:						
355911	Parts and attachments for machinery and equipment	.....	.....	(X)	(X)	14.3	(X)
265001	Paperboard boxes and containers	.....	.....	(X)	(X)	(3)	(X)
340001	Metal containers	.....	.....	(X)	(X)	(3)	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	(X)	[3]167.2	(X)
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	.....	(X)	(X)	.8	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendic A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Total consumption of materials (quantity)	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant (quantity)
	INDUSTRY 2813, INDUSTRIAL GASES			1977			
	Materials, parts, containers, and supplies.....	.....	.....	(X)	(X)	168.8	(X)
	(Materials consumed detail were not collected for 1977)						
				1972			
	Materials, parts, containers, and supplies.....	.....	.....	(X)	(X)	86.1	(X)
	(Material consumed detail were not collected for 1972)						

1977 material code	Material	Basis	Unit of measure	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)
				1977	
	INDUSTRY 2816, INORGANIC PIGMENTS[4]				
	Materials, containers, and supplies.....	.....	.....	(X)	561.0
	Inorganic chemicals:				
	Acids, except spent acids:				
281944	Hydrochloric acid.....	100% HCl.....	1,000 s. tons.	8.5	.9
281946	Hydrofluoric acid.....	100% HF.....		(D)	(D)
287311	Nitric acid.....	100% HNO_3.....		(D)	(D)
287410	Phosphoric acid.....	100% P_2O_5.....		.9	.3
281931	Sulfuric acid.....	100% H_2SO_4....		387.0	11.7
287312	Ammonia, synthetic, anhydrous.....	100% NH_3.....		8.7	1.2
281211	Chlorine.....	100% Cl.....		(D)	(D)
281996	Phosphorous, elemental.....	Technical.....		(D)	(D)
281228	Sodium carbonate (soda ash).....	58% Na_2O.....		15.1	1.6
281238	Sodium hydroxide (caustic soda).....	100% NaOH.....		46.6	6.0
289911	Salt in brine.....	.....	1,000 s. tons.	-	-
281301	Acetylene and other industrial gases compressed and liquefied, including argon, carbon dioxide, nitrogen, nitrous oxide, etc.....	.....	.....	(X)	3.9
	Organic chemicals:				
286952	Alcohol, ethyl (pure and denatured).....	.....	.....	(X)	(D)
286957	Other alcohols, including amyl, butyl, methyl, and propyl.....	.....	Mil. gal.....	(D)	(D)
286511	Aniline.....	100%.....	Million lb....	(D)	(D)
286519	Tuolene and xylene.....	100%.....		(D)	(D)
286923	Formaldehyde.....	100% HCHO.....		(D)	(D)
291167	Butadiene.....	100%.....		-	-
282104	Plastics resins consumed in the forms of granules, pellets, powders, liquids, etc., but excluding plastics sheets, rods, and other shapes.....	.....	Million lb....	13.1	4.6
	Crude materials:				
105101	Bauxite.....	.....	1,000 s. tons.	(D)	(D)
147501	Phosphate rock.....	.....	1,000 l. tons.	-	-
147901	Pyrites.....	.....		-	-
147701	Sulfur.....	.....	1,000 l. tons.	198.9	12.5
281932	Sulfuric acid sludge (decomposition acid).....	.....	1,000 s. tons.	(D)	(D)
333348	Zinc and zinc-base alloy refinery shapes.....	.....	1,000 s. tons.	37.1	21.6
100107	Iron and ferrous alloy ores, including tungsten, chromite, manganese, molybdenum, and cobalt.....	.....	.....	(X)	5.2
100207	Nonferrous metal ores, including copper, mercury, vanadium, titanium, platinum, etc.....	.....	.....	(X)	100.2
140107	Crude nonmetallic minerals, including limestone, clay, gypsum, talc, etc., but excluding crude chemical nonmetallic minerals.....	.....	.....	(X)	6.4
147007	Crude chemical nonmetallic minerals, including barite, borate, potash, fluorspar, rock salt, etc., but excluding phosphate rock and pyrites.....	.....	.....	(X)	6.4
	Used as raw materials:				
331210	Coke, including breeze.....	.....	1,000 s. tons.	176.2	20.1
131152	Natural gas.....	.....	Mil. cu. ft...	(D)	(D)
131111	Crude petroleum.....	.....	Mil. barrels..	(D)	(D)
	Other parts, materials, and accessories:				
355911	Parts and attachments for machinery and equipment.....	.....	.....	(X)	38.5
265001	Paperboard boxes and containers.....	.....	.....	(X)	5.6
340001	Metal containers.....	.....	.....	(X)	1.0
970099	All other materials and components, parts, containers, and supplies.....	.....	.....	(X)	261.1
971000	Materials, containers, and supplies, n.s.k.[2].....	.....	.....	(X)	25.5

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972 – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Total consumption of materials	Consumption of materials received from others establishments: Quantity[1]	Consumption of materials received from others establishments: Delivered cost (million dollars)	Materials made and consumed in same plant (quantity)
				1977			
	INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMICALS, N.E.C.						
	Materials, containers, and supplies[5]	.....	.....	(X)	(X)	2,988.9	(X)
	Inorganic chemicals:						
	Acids, except spent acids:						
281944	Hydrochloric acid	100% HCl.....	1,000 s. tons..	(D)	*191.9	8.2	(D)
281946	Hydrofluoric acid	100% HF.....		(D)	19.1	9.3	(D)
287311	Nitric acid	100% HNO_3.....		(D)	*35.1	5.6	(D)
287410	Phosphoric acid	100% P_2O_5.....		636.3	69.9	24.2	566.4
281931	Sulfuric acid	100% H_2SO_4.....		1,696.1	1,354.0	49.6	342.1
287312	Ammonia, synthetic, anhydrous	100% NH_3.....		(D)	167.8	20.1	(D)
281211	Chlorine	100% Cl.....		(D)	**98.9	11.1	(D)
281996	Phosphorous, elemental	Technical.....		(D)	393.5	253.1	(D)
281228	Sodium carbonate (soda ash)	58% Na_2O.....		(D)	1,215.2	98.8	(D)
281238	Sodium hydroxide (caustic soda)	100% NaOH.....		742.6	574.0	71.5	168.6
289911	Salt in brine	.....	1,000 s. tons..	(D)	**956.0	15.7	(D)
281301	Acetylene and other industrial gases compressed and liquefied, including argon, carbon dioxide, nitrogen, nitrous oxide, etc	.....	.....	(X)	(X)	7.9	(X)
	Organic chemicals:						
286952	Alcohol, ethyl (pure and denatured)	.....	.....	(X)	(X)	3.4	(X)
286957	Other alcohols, including amyl, cutyl, methyl, and propyl	.....	Mil. gal.....	(X)	60.8	32.4	(X)
286511	Aniline	100%.....	Million lb.....	(X)	(D)	(D)	(X)
286519	Tuolene and xylene	100%.....		(X)	9.2	1.8	(X)
286923	Formaldehyde	100% HCHO.....		(X)	14.1	1.7	(X)
291167	Butadiene	100%.....		(X)	-	-	(X)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding plastics sheets, rods, and other shapes	.....	Million lb.....	(X)	(D)	(D)	(X)
	Crude materials:						
105101	Bauxite	.....	1,000 s. tons..	(X)	13,982.5	441.6	(X)
147501	Phosphate rock	.....	1,000 l. tons..	(X)	3,715.7	37.0	(X)
147901	Pyrites	.....		(X)	-	-	(X)
147701	Sulfur[6]	.....	1,000 l. tons..	(X)	1,561.8	79.0	(X)
281932	Sulfuric acid sludge (decomposition acid)	.....	1,000 s. tons..	(X)	872.5	5.0	(X)
333348	Zinc and zinc-base alloy refinery shapes	.....	1,000 s. tons..	(X)	**5.2	5.0	(X)
100107	Iron and ferrous alloy ores, including tungsten, chromite, manganese, molybdenum, and cobalt	.....	.....	(X)	(X)	44.6	(X)
100207	Nonferrous metal ores, including copper, mercury, vanadium, titanium, platinum, etc	.....	.....	(X)	(X)	295.1	(X)
140107	Crude nonmetallic minerals, including limestone, clay, gypsum, talc, etc., but excluding crude chemical nonmetallic minerals	.....	.....	(X)	(X)	23.6	(X)
147007	Crude chemical nonmetallic minerals, including barite, borate, potash, fluorspar, rock salt, etc., but excluding phosphate rock and pyrites	.....	.....	(X)	(X)	36.4	(X)
	Used as raw material:						
331210	Coke, including breeze	.....	1,000 s. tons..	(X)	1,527.8	94.9	(X)
131152	Natural gas	.....	Mil. cu. ft....	(X)	4.8	8.0	(X)
131111	Crude petroleum	.....	Mil. barrels...	(X)	-	-	(X)
	Other parts, materials and accessories:						
355911	Parts and attachments for machinery and equipment	.....	.....	(X)	(X)	116.0	(X)
265001	Paperboard boxes and containers	.....	.....	(X)	(X)	42.2	(X)
340001	Metal containers	.....	.....	(X)	(X)	26.5	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	(X)	985.3	(X)
971000	Materials, containers, and supplies, n.s.k.[2]	.....	.....	(X)	(X)	260.5	(X)
				1972			
	INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMICALS, N.E.C.						
	Materials, containers, and supplies	.....	.....	(X)	(X)	1,312.2	(X)
	Inorganic chemicals:						
	Acids, except spent acids:						
281944	Hydrochloric acid	100% HCl.....	1,000 s. tons..	(D)	122.2	4.0	(D)
281946	Hydrofluoric acid	100% HF.....		(D)	13.3	4.8	(D)
287311	Nitric acid	100% HNO_3.....		276.9	53.6	3.1	223.3
287410	Phosphoric acid	100% P_2O_5.....		776.6	(D)	(D)	(D)
281931	Sulfuric acid	100% H_2SO_4.....	1,000 s. tons..	1,978.1	1,169.2	22.2	808.9

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1972 material code	Material	Basis	Unit of measure	Total consumption of materials	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant (quantity)
				1972--Con.			
	INDUSTRY 2819, INDUSTRIAL INORGANIC CHEMICALS, N.E.C.--Con.						
	Inorganic chemicals--Con.						
287312	Ammonia, synthetic, anhydrous	100% NH_3	1,000 s. tons	195.3	(D)	(D)	(D)
281211	Chlorine	100% Cl	1,000 s. tons	266.7	157.3	8.3	109.4
281996	Phosphorous, elemental	Technical	1,000 s. tons	(D)	451.0	132.1	(D)
281228	Sodium carbonate (soda ash)	58% Na_2O	1,000 s. tons	(D)	1,541.6	56.8	(D)
281238	Sodium hydroxide (caustic soda)	100% NaOH	1,000 s. tons	711.9	681.7	35.9	30.2
289911	Salt in brine	...	1,000 s. tons	(X)	(X)	(7)	(X)
281301	Acetylene and other industrial gases compressed and liquefied, including argon, carbon dioxide, nitrogen, nitrous oxide, etc	...	...	(X)	(X)	(7)	(X)
	Organic chemicals:						
286952	Alcohol, ethyl (pure and denatured)	...	...	(X)	(X)	1.4	(X)
286920	Other alcohols, including amyl, cutyl, methyl, and propyl	...	Mil. gal	(D)	23.1	5.8	(D)
286511	Aniline	100%	Million lb	(X)	5.5	1.1	(X)
286519	Tuolene and xylene	100%	...	(X)	(X)	(7)	(X)
286923	Formaldehyde	100% HCHO	...	35.7	(D)	(D)	(D)
291167	Butadiene	100%	...	(X)	(X)	(7)	(X)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding plastics sheets, rods, and other shapes	...	Million lb	(X)	(X)	(7)	(X)
	Crude materials:						
105101	Bauxite	...	1,000 s. tons	(X)	12,689.5	217.8	(X)
147501	Phosphate rock	...	1,000 l. tons	(X)	2,951.0	17.1	(X)
147901	Pyrites	...	...	(X)	(D)	(D)	(X)
147701	Sulfur[6]	...	1,000 l. tons	(X)	1,691.9	43.6	(X)
281932	Sulfuric acid sludge (decomposition acid)	...	1,000 s. tons	(X)	882.8	8.4	(X)
333348	Zinc and zinc-base alloy refinery shapes	...	1,000 s. tons	(X)	(D)	(D)	(X)
100107	Iron and ferrous alloy ores, including tungsten, chromite, manganese, molybdenum, and cobalt	...	...	(X)	(X)	(7)	(X)
100207	Nonferrous metal ores, including copper, mercury, vanadium, titanium, platinum, etc	...	...	(X)	(X)	(7)	(X)
140107	Crude nonmetallic minerals, including limestone, clay, gypsum, talc, etc., but excluding crude chemical nonmetallic minerals	...	...	(X)	(X)	(7)	(X)
147007	Crude chemical nonmetallic minerals, including barite, borate, potash, fluorspar, rock salt, etc., but excluding phosphate rock and pyrites	...	...	(X)	(X)	(7)	(X)
	Used as raw material:						
331210	Coke, including breeze	...	1,000 s. tons	(X)	445.4	14.4	(X)
131152	Natural gas	...	Mil. cu. ft	(X)	(S)	6.2	(X)
131111	Crude petroleum	...	Mil. barrels	(X)	(X)	(7)	(X)
	Other parts, materials, and accessories:						
355911	Parts and attachments for machinery and equipment	...	...	(X)	(X)	25.2	(X)
265001	Paperboard boxes and containers	...	...	(X)	(X)	(7)	(X)
340001	Metal containers	...	...	(X)	(X)	(7)	(X)
970099	All other materials and components, parts, containers, and supplies	...	...	(X)	(X)	[7]641.6	(X)
971000	Materials, containers and supplies, n.s.k.[2]	...	...	(X)	(X)	36.1	(X)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For 1977, for some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]For 1972, material codes 289911, 281301, 140107, 147007, 265001, and 340001 were included with material code 970099.

[4]For 1972, materials consumed by kind amounted to $333.1 million. Detailed materials consumed data are not available.

[5]Total cost of materials purchased and consumed by privately owned and operated plants only; excludes data on materials purchased and consumed by government-owned, contractor-operated plants.

[6]Excludes quantities of sulfur derived from other sources, such as copper pyrites, hydrogen, sulfide, and smelter gas.

[7]For 1972, material codes 289911, 281301, 286519, 291167, 282104, 100107, 100207, 140107, 147007, 131111, 265001, and 340001 were included with material code 970099.

Table 8. **Employees Engaged in Construction: 1977**

Industry	Total		Establishments reporting construction employees				Response coverage ratio C/A
			Total		Engaged in construction		
	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)	
	A	B	C	D	E	F	G
2819, Industrial inorganic chemicals, n.e.c.....	78.2	1,326.7	13.8	239.2	2.9	48.2	.18

Note: Establishments in selected industries were instructed to report number of employees, included in total employment, that were engaged in construction of major additions to the plant and utilized as a separate work force. Workers engaged in regular maintenance and repair operations were not included. Coverage Ratio (column G) indicates proportion of industry employment represented by establishments that reported construction employees. Coverage Ratio excludes: (a) construction workers not employed by the establishment (e.g., working under contract or provided by another establishment of the company); (b) establishments that reported having no construction employees; (c) establishments that did not respond to the inquiry, and (d) establishments that were not mailed a form, or from which a form had not been received at the time data were tabulated.

Plastics Materials, Synthetic Rubber, and Manmade Fibers

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DESCRIPTION OF INDUSTRIES

PLASTICS MATERIALS, SYNTHETIC RUBBER, AND MANMADE FIBERS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
2821	Plastics Materials and Resins
2822	Synthetic Rubber
2823	Cellulosic Manmade Fibers
2824	Organic Fibers, Noncellulosic

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2821, PLASTICS MATERIALS AND RESINS

This industry comprises establishments primarily engaged in the manufacture of synthetic resins, plastics materials, and nonvulcanizable elastomers. Important products of this industry include cellulose plastic materials; phenolic and other tar acid resins; urea and melamine resins; vinyl resins; styrene resins; alkyd resins; acrylic resins; polyethylene resins; polypropylene resins; rosin modified resins; coumarone-indene and petroleum polymer resins; and miscellaneous resins including polyamide resins, silicones, polyisobutylenes, polyesters, polycarbonate resins, acetal resins, and fluorohydrocarbon resins; vulcanized fiber; and casein plastics. Establishments primarily engaged in the manufacture of fabricated plastics products or plastics film, sheet, rod, nontextile monofilaments, and regenerated cellulosic products, and vulcanized fiber are classified in industry 3079, whether from purchased resins or from resins produced in the same plant. Establishments primarily engaged in compounding purchased resins are also classified in industry 3079. Establishments primarily engaged in the manufacture of adhesives are classified in industry 2891. For a detailed list of products of industry 2821, see table 6a, product codes 28213 00 and 28214 00.

The total value of shipments for establishments classified in the Plastics Materials and Resins industry amounted to $10,818 million in 1977, an increase of 141 percent from 1972. The value of shipments of products classified as primary to the industry was $12,181 million, an increase of 171 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of all of the products of the industry. Value added by manufacture, at $4,143 million in 1977, was 92 percent above value added in 1972. All dollar digures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 57.2 thousand employees, an increase of 4 percent from 1972. The leading States in employment were Texas, New Jersey, Ohio, and Pennsylvania, accounting for approximately 35 percent of the industry's 1977 employment. Data for New Jersey and Pennsylvania have been withheld to avoid disclosing operations of individual companies.

The 1977 census obtained data on shipments of plastics materials and resins only at product class levels. Detailed figures on the production and sales of many of the products primary to the Plastics Materials and Resins industry are published annually by the U.S. International Trade Commission, in the report Synthetic Organic Chemicals: U.S. Production and Sales.

No establishments in this industry were excluded from the mail portion of the census. The data for a small number of establishments whose reports were not received at the time the data were tabulated were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 2822, SYNTHETIC RUBBER

This industry comprises establishments primarily engaged in the manufacture of synthetic rubber by polymerization or copolymerization. An elastomer, for the purpose of this classification, is a rubber-like material capable of vulcanization,

such as copolymers of butadiene and styrene or butadiene and acrylonitrile, polybutadienes, chloroprene rubbers, and isobutylene-isoprene copolymers. Butadiene copolymers containing less than 50 percent butadiene are classified in industry 2821. Natural chlorinated rubbers and cyclized rubbers are considered as semifinished products and are classified in industry 3069.

The total value of shipments for establishments classified in the Synthetic Rubber industry amounted to $1,863 million in 1977, an increase of 71 percent from 1972. The value of shipments of products classified as primary to the industry was $2,354 million, an increase of 82 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $569 million in 1977, was 16 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.0 thousand employees, a decrease of 15 percent from 1972. The leading States in employment were Texas, Kentucky, Louisiana, and Ohio, accounting for approximately 90 percent of the industry's 1977 employment. Data for these States have been withheld to avoid disclosing operations of individual companies.

The 1977 census obtained data on shipments of synthetic rubber only at product class levels. Detailed figures on the shipments of synthetic rubber are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-30A, Rubber: Supply and Distribution for the U.S.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 2823, CELLULOSIC MANMADE FIBERS

This industry comprises establishments primarily engaged in the manufacture of cellulosic fibers (including cellulose acetate and regenerated cellulose such as rayon, by the viscose or cuprammonium process) in the form of monofilament, yarn, staple, or tow suitable for further manufacturing on spindles, looms, knitting machines, or other textile processing equipment. Establishments primarily engaged in the manufacture of textile glass fibers are classified in industry 3229. For a detailed list of products for industry 2823, see table 6a, product codes 28233 -- to 28233 61.

The 1977 definition of this industry has been revised from that given in the 1972 SIC manual, but the SIC number and title are unchanged. The 1977 revision transferred the manufacture of textured cellulosic manmade fibers produced in manmade fiber plants from industry 2282, to this industry. The change in classification had no significant effect on data for either industry.

The total value of shipments for establishments classified in the Cellulosic Manmade Fibers industry amounted to $999 million in 1977, an increase of 69 percent from 1972. The value of shipments of products classified as primary to the industry was $851 million, an increase of 24 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $326 million in 1977, was 34 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.9 thousand employees, a decrease of 7 percent from 1972. The leading States in employment were Tennessee, Virginia, South Carolina, and West Virginia, accounting for approximately 75 percent of the industry's 1977 employment. Data for these States have been withheld to avoid disclosing operations of individual companies.

No Establishments were excluded from the mail portion of the census. There were no establishments for which administrative records were used.

INDUSTRY 2824, ORGANIC FIBERS, NONCELLULOSIC

This industry comprises establishments primarily engaged in the manufacture of synthetic organic fibers, except cellulosic, in the form of monofilament yarn, staple, or tow suitable for further manufacture on spindles, looms, knitting machines, or other textile processing equipment. Establishments primarily engaged in the manufacture of glass fibers are classified in industry 3229.

The 1977 definition of this industry has been revised from that in the 1972 SIC manual, but the SIC number and title are unchanged. The 1977 revision transferred the manufacture of textured organic fibers, noncellulosic, produced in manmade fiber plants, from industry 2282 to this industry.

The effect of the revisions on the data are summarized in table 1c, Composition of New (1977) Industry Based on Old (1972) Standard Industrial Classification.

The total value of shipments for establishments classified in the Organic Fibers, Noncellulosic industry amounted to $6,380 million in 1977, an increase of 75 percent from 1972. The value of shipments of products classified as primary to the industry was $5,472 million, an increase of 86 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were nylon fibers, except producer textured, for which value of shipments increased 57 percent and polyester fibers, except producer textured, which showed a 58 percent increase in value of shipments. Value added by manufacture, at $2,804 million in 1977, was 37 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 74.0 thousand employees, a decrease of 5 percent from 1972. The leading States in employ-

ment were South Carolina, North Carolina, Virginia, and Tennessee, accounting for approximately 80 percent of the industry's 1977 employment. Data for Tennessee have been withheld to avoid disclosing operations of individual companies.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2821, PLASTICS MATERIALS AND RESINS[3]																
1977 Census--	221	397	310	57.2	985.6	36.7	76.6	575.7	4 142.4	6 772.6	10 818.2	895.2	(NA)	1 093.6	85	74
1976 ASM----	(NA)	(NA)	(NA)	56.2	869.4	36.4	73.0	500.5	3 524.4	5 790.1	9 201.9	746.4	5 631.1	964.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	54.3	771.6	34.0	68.7	433.0	2 770.5	4 351.4	7 043.1	637.8	5 128.2	819.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	57.7	763.5	37.6	77.8	440.8	3 640.1	4 317.4	7 773.0	647.9	4 785.6	788.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	54.4	654.4	35.0	74.1	387.6	2 490.0	2 628.4	5 159.4	330.7	4 050.8	434.5	(NA)	(NA)
1972 Census--	193	323	263	54.8	632.8	35.0	74.3	370.0	2 160.5	2 328.2	4 478.2	253.2	3 900.5	467.7	81	79
INDUSTRY 2822, SYNTHETIC RUBBER																
1977 Census--	56	53	30	10.0	185.2	7.1	14.2	125.7	568.6	1 294.8	1 863.3	53.2	(NA)	154.3	91	71
1976 ASM----	(NA)	(NA)	(NA)	10.6	172.3	7.6	14.9	113.7	510.7	1 208.0	1 702.3	46.4	722.2	153.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	9.8	147.7	7.0	13.6	96.8	468.8	971.9	1 455.7	30.9	682.7	129.1	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.7	143.8	7.5	14.9	93.6	531.5	994.6	1 481.1	35.3	680.9	157.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	11.2	142.7	7.8	15.3	92.1	475.2	683.4	1 167.6	46.1	823.5	112.2	(NA)	(NA)
1972 Census--	50	59	34	11.8	138.8	8.2	16.2	88.5	491.7	610.6	1 089.4	35.5	797.6	115.9	90	74
1971 ASM----	(NA)	(NA)	(NA)	12.2	137.8	8.2	16.6	86.2	476.7	558.6	1 042.6	49.0	740.0	108.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	12.8	135.0	8.7	17.6	84.9	460.9	558.7	1 006.6	49.5	697.1	115.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	12.5	127.0	8.5	17.0	78.9	500.7	549.8	1 046.2	79.8	878.2	98.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	12.2	115.7	8.3	16.8	72.4	453.0	519.0	974.2	78.1	743.3	91.9	(NA)	(NA)
1967 Census--	33	48	28	12.6	110.4	8.5	16.8	66.5	404.9	521.2	926.9	75.2	691.9	97.0	89	81
1966 ASM----	(NA)	(NA)	(NA)	13.2	111.7	8.6	17.2	66.6	443.4	519.8	954.7	41.9	(NA)	93.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	11.9	100.0	7.8	15.9	59.3	391.9	456.8	847.7	35.1	(NA)	80.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	11.9	96.3	7.9	16.3	59.6	359.9	459.7	819.3	23.3	434.4	80.4	(NA)	(NA)
1963 Census--	16	24	24	11.8	93.5	7.8	15.9	56.6	329.5	435.4	763.9	32.3	418.2	76.8	92	80
INDUSTRY 2823, CELLULOSIC MANMADE FIBERS																
1977 Census--	5	10	10	15.9	212.8	12.5	25.1	151.2	325.7	680.8	998.9	29.3	(NA)	110.8	(D)	(D)
1976 ASM----	(NA)	(NA)	(NA)	16.7	202.9	12.8	25.0	137.9	349.0	596.5	944.1	41.6	818.5	123.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	15.9	178.5	12.0	22.9	119.3	302.8	516.3	836.3	69.9	917.6	127.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	20.5	205.1	16.2	31.8	144.2	356.7	592.2	926.4	57.1	877.5	142.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	16.7	134.0	14.3	29.7	107.1	284.0	343.0	641.4	30.2	612.6	85.2	(NA)	(NA)
1972 Census--	13	18	12	17.1	135.2	14.4	29.6	107.1	243.5	327.8	589.5	32.7	611.1	97.4	(D)	(D)
1971 ASM----	(NA)	(NA)	(NA)	20.2	149.8	17.1	33.6	119.1	349.6	331.3	662.4	52.9	623.7	133.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	21.5	142.0	17.8	35.1	109.1	322.6	299.6	620.5	38.2	614.3	104.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	29.3	190.7	24.2	49.1	148.7	499.2	384.5	872.2	82.8	871.1	139.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	34.2	228.1	27.4	54.8	165.0	593.4	445.2	1 017.4	58.2	963.4	143.8	(NA)	(NA)
1967 Census--	13	23	20	31.9	198.2	25.3	50.0	141.1	506.8	383.3	902.8	51.6	912.1	108.8	(D)	(D)
1966 ASM----	(NA)	(NA)	(NA)	34.3	208.8	27.5	55.1	150.7	550.6	395.2	924.1	89.2	(NA)	120.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	34.0	198.0	27.2	54.3	141.8	515.7	393.8	903.2	73.9	(NA)	90.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	31.9	182.9	25.5	52.0	132.5	483.5	353.3	838.8	83.7	710.7	90.9	(NA)	(NA)
1963 Census--	8	19	19	30.1	167.0	24.0	48.1	120.5	411.5	320.0	731.8	38.1	625.6	81.6	(D)	(D)
INDUSTRY 2824, ORGANIC FIBERS, NONCELLULOSIC																
1977 Census--	37	66	58	74.0	1 086.1	54.8	105.8	704.8	2 804.4	3 618.1	6 379.7	338.5	(NA)	661.8	84	97
1976 ASM----	(NA)	(NA)	(NA)	69.3	942.3	50.2	94.9	594.4	2 263.7	3 092.9	5 307.3	534.2	5 875.9	587.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	70.2	887.0	51.0	97.3	556.9	1 983.0	2 752.1	4 933.8	700.9	5 491.8	549.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	80.9	911.1	60.5	118.4	595.1	2 410.9	2 617.7	4 716.1	587.1	4 924.3	792.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	81.8	837.9	61.5	122.3	556.5	2 819.0	1 655.8	4 751.2	422.8	4 603.7	392.6	(NA)	(NA)
1972 Census--	35	61	55	78.2	759.5	58.4	116.2	497.7	2 031.1	1 588.3	3 601.4	372.5	4 159.3	444.5	80	97
1971 ASM----	(NA)	(NA)	(NA)	75.2	687.2	55.2	108.5	438.7	1 905.4	1 343.3	3 241.4	351.6	3 839.1	462.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	75.7	642.6	54.6	107.5	405.6	1 692.6	1 198.0	2 868.8	309.0	3 598.3	455.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	70.2	581.1	50.9	101.7	367.4	1 703.6	1 066.8	2 713.3	246.4	2 977.9	385.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	62.1	480.3	45.6	92.4	309.8	1 736.9	891.9	2 584.7	244.7	2 670.4	303.8	(NA)	(NA)
1967 Census--	22	40	40	57.2	415.9	40.7	80.9	257.9	1 251.8	767.7	2 033.2	309.7	2 428.7	267.7	92	94
1966 ASM----	(NA)	(NA)	(NA)	59.1	421.3	40.6	80.7	246.0	1 301.5	733.8	1 991.8	384.7	(NA)	266.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	51.5	358.5	36.5	73.6	216.4	1 215.4	683.4	1 842.9	363.0	(NA)	211.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	44.3	304.6	30.7	62.3	180.6	1 043.1	540.0	1 580.6	163.6	1 288.7	130.0	(NA)	(NA)
1963 Census--	14	25	24	41.4	275.8	28.4	57.2	161.0	922.0	487.8	1 403.2	170.3	1 160.7	124.0	95	97

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2821, PLASTICS MATERIALS AND RESINS											
1977 Census--	17 238	(NA)	64	2 086	7.51	62	71	(NA)	72 456	23	54.07
1976 ASM----	15 469	100 197	64	2 005	6.85	62	72	61	62 711	24	48.27
1975 ASM----	14 209	94 441	62	2 020	6.30	61	72	72	51 022	27	40.32
1974 ASM----	13 232	82 939	65	2 069	5.66	55	65	61	63 086	20	46.78
1973 ASM----	12 029	74 463	64	2 117	5.23	50	63	78	45 772	26	33.60
1972 Census--	11 547	71 177	63	2 122	4.97	51	66	87	39 425	29	29.07
INDUSTRY 2822, SYNTHETIC RUBBER											
1977 Census--	18 454	(NA)	71	1 980	8.88	69	79	(NA)	56 659	32	40.18
1976 ASM----	16 254	68 132	71	1 960	7.63	70	81	42	48 179	33	34.27
1975 ASM----	15 071	69 663	71	1 942	7.11	66	76	46	47 836	31	34.47
1974 ASM----	13 439	63 635	70	1 986	6.28	67	76	45	49 672	27	35.67
1973 ASM----	12 741	73 526	69	1 961	6.01	58	70	70	42 428	30	31.05
1972 Census--	11 762	67 593	69	1 975	5.46	56	68	73	41 669	28	30.35
1971 ASM----	11 295	60 655	67	2 024	5.19	53	66	70	39 073	28	28.71
1970 ASM----	10 546	54 460	67	2 022	4.82	55	68	69	36 007	29	26.18
1969 ASM----	10 160	70 256	68	2 000	4.64	52	64	83	40 056	25	29.45
1968 ASM----	9 483	60 926	68	2 024	4.30	53	65	76	37 131	25	26.96
1967 Census--	8 761	54 912	67	1 976	3.95	56	68	74	32 134	27	24.10
1966 ASM----	8 462	(NA)	65	2 000	3.87	54	66	(NA)	33 590	25	25.77
1965 ASM----	8 403	(NA)	65	2 038	3.72	53	65	(NA)	32 932	25	24.64
1964 ASM----	8 092	36 504	66	2 063	3.65	56	67	53	30 243	26	22.07
1963 Census--	7 923	35 440	66	2 038	3.55	56	69	54	27 923	28	20.72
INDUSTRY 2823, CELLULOSIC MANMADE FIBERS											
1977 Census--	13 368	(NA)	79	2 004	6.03	68	89	(NA)	20 463	65	12.98
1976 ASM----	12 149	49 011	76	1 953	5.51	63	84	86	20 898	58	13.96
1975 ASM----	11 226	57 710	75	1 908	5.20	61	83	109	19 044	58	13.22
1974 ASM----	10 004	42 804	79	1 962	4.53	63	86	94	17 400	57	11.21
1973 ASM----	8 023	36 682	85	2 076	3.60	53	74	95	17 005	47	9.56
1972 Census--	7 906	35 736	84	2 055	3.61	55	78	103	14 239	55	8.22
1971 ASM----	7 415	30 876	84	1 964	3.54	50	72	94	17 306	42	10.40
1970 ASM----	6 604	28 572	82	1 971	3.10	48	71	99	15 004	44	9.19
1969 ASM----	6 508	29 730	82	2 028	3.02	44	65	99	17 037	38	10.16
1968 ASM----	6 669	28 169	80	2 000	3.01	43	66	94	17 350	38	10.82
1967 Census--	6 213	28 592	79	1 976	2.82	42	64	101	15 887	39	10.13
1966 ASM----	6 087	(NA)	80	2 003	2.73	42	65	(NA)	16 052	37	9.99
1965 ASM----	5 823	(NA)	80	1 996	2.61	43	65	(NA)	15 167	38	9.49
1964 ASM----	5 733	22 278	79	2 039	2.54	42	63	84	15 156	37	9.29
1963 Census--	5 548	20 784	79	2 004	2.50	43	66	85	13 671	40	8.55
INDUSTRY 2824, ORGANIC FIBERS, NONCELLULOSIC											
1977 Census--	14 673	(NA)	74	1 928	6.66	56	73	(NA)	37 886	38	26.51
1976 ASM----	13 597	84 789	72	1 890	6.26	58	76	110	32 665	41	23.85
1975 ASM----	12 635	78 230	72	1 907	5.72	55	73	111	28 247	44	20.38
1974 ASM----	11 262	60 868	74	1 957	5.02	55	74	104	29 800	37	20.36
1973 ASM----	10 243	56 279	75	1 988	4.55	34	52	96	34 462	29	23.04
1972 Census--	9 712	53 187	74	1 989	4.28	44	65	115	25 973	37	17.48
1971 ASM----	9 138	51 051	73	1 965	4.04	41	62	118	25 337	36	17.56
1970 ASM----	8 488	47 533	72	1 968	3.77	41	64	125	22 359	37	15.74
1969 ASM----	8 277	42 420	72	1 998	3.61	39	60	109	24 267	34	16.75
1968 ASM----	7 734	43 001	73	2 026	3.35	34	53	103	27 969	27	18.79
1967 Census--	7 270	42 459	71	1 987	3.18	37	58	119	21 884	33	15.47
1966 ASM----	7 128	(NA)	68	1 987	3.04	36	57	(NA)	22 021	32	16.12
1965 ASM----	6 961	(NA)	70	2 016	2.94	37	56	(NA)	23 600	29	16.51
1964 ASM----	6 875	29 090	69	2 029	2.89	34	53	81	23 546	29	16.74
1963 Census--	6 661	28 036	68	2 014	2.81	34	54	82	22 270	29	16.11

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 1c. Composition of New (1977) Industry Based on Old (1972) Standard Industrial Classification

(Under "Composition of new industry," row of data for "New industry" is for industry as now composed and rows of data for "Old industry" is for industries as they would have been if industry definition had not been changed. Under "Totals for industries on old SIC," data are for industries before revision and reflect amounts classified in specified new industry as well as in other new industries. The data in first five columns shows that portion of "old industry" that was moved to "new industry")

Industry	Composition of new industry--1977 data					Totals for industries on old SIC--1977 data				
	Establishments					Establishments				
	Total (number)	With 20 employees or more (number)	All employees (1,000)	Value added by manufacture (million dollars)	Value of shipments (million dollars)	Total (number)	With 20 employees or more (number)	All employees (1,000)	Value added by manufacture (million dollars)	Value of shipments (million dollars)
New industry 2824--Organic fibers, noncellulosic (includes producer-textured noncellulosic yarns).....	66	58	74.0	2,804.4	6,379.7	(X)	(X)	(X)	(X)	(X)
Old industry 2824--Organic fibers, noncellulosic (excludes producer-textured noncellulosic yarns).....	59	51	67.7	2,400.6	5,975.9	59	51	67.7	2,400.6	5,975.9
Old industry 2282--Throwing and winding mills.....	7	7	6.3	199.8	403.8	203	155	36.8	696.7	1,913.9

(X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2821, PLASTICS MATERIALS AND RESINS													
United States	-	**397**	**310**	**57.2**	**985.6**	**36.7**	**76.6**	**575.7**	**4 142.7**	**6 772.6**	**10 818.2**	**895.2**	**54.8**	**2 160.5**
New England Division:													
Massachusetts	-	24	19	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	10	6	1.0	16.4	0.7	1.5	10.7	75.9	107.6	183.1	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	15	9	1.9	31.2	1.3	2.6	17.4	103.0	142.7	243.5	13.4	2.0	67.7
New Jersey	-	45	39	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	5.3	160.5
Pennsylvania	-	21	17	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	26	22	4.1	68.1	2.8	5.8	44.9	273.5	515.0	785.8	49.2	(NA)	(D)
Indiana	-	8	7	1.4	23.6	1.1	2.4	15.4	205.8	119.2	323.3	(D)	(NA)	(D)
Illinois	-	31	22	3.3	55.7	2.3	4.8	37.0	204.1	555.1	748.0	81.2	(NA)	(D)
Michigan	-	10	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	6	5	0.6	9.4	0.4	0.8	5.8	41.2	55.7	96.3	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Delaware	-	7	7	1.4	22.5	0.9	2.0	14.1	59.3	141.7	199.5	21.1	(NA)	(D)
Maryland	-	3	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	5	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	11	10	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	5	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	11	7	0.3	4.8	0.2	0.5	3.0	26.8	68.8	94.0	14.7	0.2	12.0
Florida	-	9	8	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	9	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	6	6	2.3	37.7	1.5	2.9	21.6	158.5	190.7	348.1	4.0	(NA)	(D)
Mississippi	-	8	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	13	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.8	109.7
Texas	-	31	26	6.2	123.7	3.9	8.5	72.4	729.7	1 355.4	2 032.0	407.7	(NA)	(D)
Pacific Division:														
Washington	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oregon	-	8	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	48	38	2.3	38.4	1.3	2.7	20.1	181.8	381.6	560.8	18.6	(NA)	(D)
INDUSTRY 2822, SYNTHETIC RUBBER														
United States	-	**63**	**30**	**10.0**	**185.2**	**7.1**	**14.2**	**125.7**	**568.6**	**1 294.8**	**1 863.3**	**53.2**	**11.8**	**491.7**
East North Central Division:														
Ohio	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	-	7	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.9	74.8
Texas	-	10	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 2823, CELLULOSIC MANMADE FIBERS														
United States	-	**10**	**10**	**15.9**	**212.8**	**12.5**	**25.1**	**151.2**	**325.7**	**680.8**	**998.9**	**29.3**	**17.1**	**243.5**
Middle Atlantic Division:														
Pennsylvania	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2824, ORGANIC FIBERS, NONCELLULOSIC													
United States	-	66	58	74.0	1 086.1	54.8	105.8	704.8	2 604.4	3 618.1	6 379.7	338.5	78.2	2 031.1
New England Division:													
Rhode Island	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
Pennsylvania	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Maryland	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	7	7	14.8	239.3	10.5	19.7	149.2	575.9	532.2	1 104.9	73.4	(NA)	(D)
North Carolina	-	13	12	15.7	215.1	12.2	23.8	149.7	692.4	812.7	1 504.1	37.5	16.0	439.4
South Carolina	-	14	14	18.4	250.3	13.9	27.3	161.8	608.0	979.5	1 565.1	108.4	(NA)	(D)
Georgia	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	8	8	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	4	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Plastics materials and resins (SIC 2821)	Synthetic rubber (SIC 2822)	Cellulosic manmade fibers (SIC 2823)	Organic fibers, noncellulosic (SIC 2824)
Primary product specialization ratio[1]	percent	85	91	(D)	84
Coverage ratio[2]	do	74	71	(D)	97
All establishments	number	397	63	10	66
With 1 to 19 employees	do	87	33	-	8
With 20 to 99 employees	do	180	10	1	9
With 100 employees or more	do	130	20	9	49
All employees, average for year	1,000	57.2	10.0	15.9	74.0
Payroll for year, all employees	mil. dol.	985.6	185.2	212.8	1 086.1
Production workers:					
Average for year	1,000	36.7	7.1	12.5	54.8
March	do	36.3	7.0	12.4	54.0
May	do	36.7	7.2	12.5	55.6
August	do	37.0	7.2	12.6	55.2
November	do	36.8	7.1	12.5	54.6
Hours	millions	76.6	14.2	25.1	105.8
January to March	do	18.9	3.5	6.0	26.2
April to June	do	19.4	3.5	6.5	27.4
July to September	do	19.1	3.6	6.4	26.4
October to December	do	19.2	3.5	6.2	25.8
Wages	mil. dol.	575.7	125.7	151.2	704.8
Cost of materials, etc.	do	6 772.6	1 294.8	680.8	3 618.1
Materials, parts, containers, etc., consumed	do	6 119.7	1 161.1	567.1	3 150.2
Resales	do	125.7	(D)	(D)	54.2
Fuels consumed	do	283.8	71.3	74.0	209.7
Purchased electric energy	do	195.1	24.4	10.8	155.2
Contract work	do	48.4	(D)	(D)	48.9
Value of shipments, including resales	do	10 818.2	1 863.3	998.9	6 379.7
Value of resales	do	168.8	(D)	(D)	62.7
Value added by manufacture	do	4 142.7	568.6	325.7	2 804.4
Manufacturers' inventories:					
Beginning of year	do	982.3	148.9	108.1	614.9
Finished products	do	545.4	93.9	43.7	317.7
Work in process	do	101.9	14.5	12.8	100.6
Materials, supplies, fuel, etc.	do	335.0	40.6	51.7	196.6
End of year	do	1 093.6	154.3	110.8	661.8
Finished products	do	618.7	92.6	50.8	351.9
Work in process	do	125.7	15.9	13.0	109.3
Materials, supplies, fuel, etc.	do	349.2	45.8	47.0	200.7
Capital expenditures for plant and equipment	do	915.5	53.5	33.5	349.6
New capital expenditures	do	895.2	53.2	29.3	338.5
New buildings and other structures	do	101.2	3.9	1.1	45.8
New machinery and equipment	do	794.0	49.3	28.2	292.7
Used capital expenditures	do	20.3	0.3	4.2	11.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Plastics materials and resins (SIC 2821)		Synthetic rubber (SIC 2822)		Cellulosic manmade fibers (SIC 2823)		Organic fibers, noncellulosic (SIC 2824)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	16.7	4	1.4	3	0.1	1	13.3	1
Response coverage ratio[2] (percent)	60	(X)	57	(X)	77	(X)	77	(X)
Machinery	119.7	2	12.6	2	2.9	1	16.7	1
Response coverage ratio[2] (percent)	62	(X)	68	(X)	82	(X)	75	(X)
Cost of purchased communication services	13.0	5	1.1	5	1.7	1	6.0	1
Response coverage ratio[2] (percent)	68	(X)	85	(X)	93	(X)	97	(X)
Rental payments	35.0	5	5.4	8	3.7	1	19.2	1
Buildings and other structures	5.5	8	1.6	14	0.3	1	4.0	1
Machinery and equipment	29.5	6	3.9	7	3.5	1	15.2	1
Supplemental labor costs	225.8	1	43.5	1	47.0	1	249.5	1
Legal costs	70.3	1	12.3	1	15.0	1	68.8	1
Voluntary costs	155.5	1	31.3	1	32.0	1	180.8	1
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	1,212.9	1	100.9	1	131.6	1	1,130.0	1
New capital expenditures	94.2	3	3.7	2	1.1	1	47.1	3
Used capital expenditures	2.9	2	-	(X)	-	(X)	1.1	1
Retirements	27.5	5	0.3	3	6.8	1	46.6	1
End of year	1,282.5	1	104.3	1	126.0	1	1,131.5	1
Machinery and equipment:								
Beginning of year	4,721.8	1	621.6	1	669.4	1	5,089.9	1
New capital expenditures	786.6	1	48.8	1	28.2	1	299.6	3
Automobiles, trucks, etc., for highway use[3]	(2.1)	(A)	(0.1)	(A)	(0.1)	(A)	(0.2)	(A)
Computers and peripheral data processing equipment[3]	(0.7)	(A)	(Z)	(A)	(0.9)	(A)	(11.2)	(A)
All other[3]	756.2	3	(44.0)	(A)	(25.6)	78	268.0	8
New machinery and equipment, n.s.k.[4]	(27.5)	(A)	(D)	(A)	(D)	(A)	(20.2)	99
Used capital expenditures	16.5	1	0.2	1	4.2	1	10.1	1
Retirements	94.2	2	7.8	2	42.8	1	280.8	1
End of year	5,430.7	1	662.9	1	659.0	1	5,118.8	1
Total gross value of depreciable assets:								
Beginning of year	5,934.7	1	722.5	1	801.1	1	6,219.8	1
New capital expenditures	880.8	1	52.6	1	29.3	1	346.7	3
Used capital expenditures	19.4	1	0.2	1	4.2	1	11.2	1
Retirements	121.7	3	8.1	2	49.6	1	327.4	1
End of year	6,713.1	1	767.2	1	784.9	1	6,250.3	1
Depreciation charges during 1977	391.8	1	38.8	1	39.5	1	369.7	1
Buildings and other structures	56.6	1	4.1	2	4.0	1	59.0	1
Machinery and equipment	335.2	1	34.6	1	35.5	1	310.7	1

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 2821, PLASTICS MATERIALS AND RESINS												
Total	-	397	57.2	985.6	36.7	76.6	575.7	4 142.7	6 772.6	10 818.2	895.2	1 093.6
Establishments with an average of—												
1 to 4 employees	-	18	(Z)	0.3	(Z)	(Z)	0.2	1.1	2.4	3.6	0.2	0.3
5 to 9 employees	-	23	0.1	2.1	0.1	0.2	1.1	8.1	17.9	26.1	0.9	2.4
10 to 19 employees	-	46	0.7	9.5	0.4	0.8	5.4	36.7	88.8	125.2	5.9	11.8
20 to 49 employees	-	107	3.4	51.4	2.2	4.4	29.2	253.0	574.1	817.6	42.8	65.6
50 to 99 employees	-	73	5.2	76.6	3.4	7.2	43.7	291.6	628.2	919.7	32.9	76.9
100 to 249 employees	-	74	11.6	192.1	7.3	14.9	106.4	882.9	1 661.1	2 522.5	270.2	284.8
250 to 499 employees	-	29	10.1	173.7	6.9	14.6	114.5	695.9	1 455.4	2 138.5	235.2	207.9
500 to 999 employees	-	18	12.3	223.4	8.1	17.8	136.3	962.0	1 311.4	2 264.9	214.3	211.2
1,000 to 2,499 employees	-	7	(13.8)	(256.5)	(8.3)	(16.5)	(138.8)	(1 011.4)	(1 033.2)	(2 000.1)	(89.6)	(232.7)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 2822, SYNTHETIC RUBBER												
Total	-	63	10.0	185.2	7.1	14.2	125.7	568.6	1 294.8	1 863.3	53.2	154.3
Establishments with an average of—												
1 to 4 employees	E9	18	(Z)	0.3	(Z)	(Z)	0.2	0.6	1.4	2.0	0.1	0.1
5 to 9 employees	E3	13	0.1	1.3	0.1	0.1	0.8	7.4	7.7	5.7	(5.8)	1.1
10 to 19 employees	E6	2	(0.4)	(6.5)	(0.3)	(0.6)	(4.5)	(41.4)	(62.0)	(111.7)	(D)	(8.5)
20 to 49 employees	-	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	7	1.1	19.0	0.8	1.6	12.6	65.4	131.6	191.9	7.5	20.2
250 to 499 employees	-	3	1.2	22.3	0.6	1.2	10.3	45.6	153.3	196.9	3.6	20.4
500 to 999 employees	-	9	(7.1)	(135.9)	(5.3)	(10.5)	(97.4)	(408.5)	(938.7)	(1 355.1)	(36.2)	(103.9)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	25	0.1	1.7	0.1	0.1	1.1	3.0	7.8	10.8	0.3	0.6
INDUSTRY 2823, CELLULOSIC MANMADE FIBERS												
Total	-	10	15.9	212.8	12.5	25.1	151.2	325.7	680.8	998.9	29.3	110.8
Establishments with an average of—												
1 to 4 employees	E0	-	-	-	-	-	-	-	-	-	-	-
5 to 9 employees	E0	-	-	-	-	-	-	-	-	-	-	-
10 to 19 employees	E8	-	-	-	-	-	-	-	-	-	-	-
50 to 99 employees	-	1	(2.5)	(32.9)	(1.9)	(4.2)	(24.3)	(57.0)	(135.1)	(185.8)	(29.3)	(42.8)
500 to 999 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	5	(13.4)	(179.9)	(10.6)	(20.9)	(126.9)	(268.7)	(545.7)	(813.1)	(D)	(68.0)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	-	-	-	-	-	-	-	-	-	-	-
INDUSTRY 2824, ORGANIC FIBERS, NONCELLULOSIC												
Total	-	66	74.0	1 086.1	54.8	105.8	704.8	2 804.4	3 618.1	6 379.7	338.5	661.8
Establishments with an average of—												
1 to 4 employees	E3	4	(Z)	(0.2)	(Z)	(Z)	(0.1)	(S)	(0.7)	(1.8)	(2.4)	(0.1)
5 to 9 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	E6	3	(Z)	0.6	(Z)	0.1	0.4	1.8	2.3	4.1	(D)	0.4
20 to 49 employees	E2	4	0.1	1.8	0.1	0.2	1.2	4.0	3.0	6.8	(D)	0.9
50 to 99 employees	-	5	0.4	5.1	0.3	1.0	3.3	13.8	11.5	24.7	(11.4)	3.0
100 to 249 employees	-	8	1.2	12.4	1.0	1.9	8.9	28.6	38.7	63.1	(D)	14.1
250 to 499 employees	-	4	1.5	18.3	1.2	2.3	13.5	67.4	129.6	202.1	(D)	6.6
500 to 999 employees	-	10	6.3	83.6	4.7	9.4	53.1	218.9	372.7	580.8	60.4	92.4
1,000 to 2,499 employees	-	15	24.6	337.4	18.2	35.3	221.7	772.8	1 126.5	1 882.5	114.2	228.3
2,500 employees or more	-	12	39.9	626.6	29.5	55.6	402.5	1 697.4	1 933.1	3 614.0	150.1	316.0
Covered by administrative records[2]	E0	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2821	**Plastics materials and resins:**										
	Entire industry	397	57.2	985.6	36.7	76.6	575.7	4 142.7	6 772.6	10 818.2	895.2
	Establishments with 75 percent specialization or more	312	40.9	707.0	26.3	54.9	414.4	3 130.8	5 010.8	8 055.9	700.7
28213	Thermoplastic resins and plastics materials:										
	Establishments with this product class primary	239	46.7	824.0	29.9	62.6	483.3	3 579.1	5 779.6	9 265.7	836.9
	Establishments with 75 percent specialization or more in class	188	29.0	510.7	19.0	39.9	308.0	2 362.5	3 908.5	6 223.8	621.6
28214	Thermosetting resins and plastics materials:										
	Establishments with this product class primary	119	9.8	153.7	6.4	13.1	87.6	539.1	952.1	1 487.1	53.7
	Establishments with 75 percent specialization or more in class	79	6.9	107.9	4.6	9.2	61.8	350.0	535.2	881.0	36.6
2822	**Synthetic rubber:**										
	Entire industry	63	10.0	185.2	7.1	14.2	125.7	568.6	1 294.8	1 863.3	53.2
	Establishments with 75 percent specialization or more	58	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2823	**Cellulosic manmade fibers:**										
	Entire industry	10	15.9	212.8	12.5	25.1	151.2	325.7	680.8	998.9	29.3
	Establishments with 75 percent specialization or more	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28233	Rayon and acetate fiber:										
	Establishments with this product class primary	10	15.9	212.8	12.5	25.1	151.2	325.7	680.8	998.9	29.3
	Establishments with 75 percent specialization or more in class	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2824	**Organic fibers, noncellulosic:**										
	Entire industry	66	74.0	1 086.1	54.8	105.8	704.8	2 804.4	3 618.1	6 379.7	338.5
	Establishments with 75 percent specialization or more	53	50.5	727.6	38.0	73.6	476.9	1 777.9	2 356.2	4 099.5	203.0
28241	Nylon fibers, except producer textured:										
	Establishments with this product class primary	16	31.0	473.2	22.9	43.2	305.6	1 112.0	1 429.7	2 523.7	120.9
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28243	Acrylic and modacrylic fibers, except producer textured:										
	Establishments with this product class primary	4	5.7	94.9	3.8	7.3	55.5	273.5	400.8	672.0	47.8
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28244	Polyester fibers, except producer textured:										
	Establishments with this product class primary	14	22.8	336.5	17.0	33.6	216.9	947.6	1 245.8	2 187.4	112.6
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28245	Other noncellulosic manmade fibers, except producer textured:										
	Establishments with this product class primary	9	1.1	12.8	0.9	1.9	9.2	40.3	46.2	81.7	7.0
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28246	Producer textured manmade fibers, group filament:										
	Establishments with this product class primary	14	13.3	167.1	10.2	19.5	116.7	428.0	491.0	906.6	48.6
	Establishments with 75 percent specialization or more in class	7	4.8	60.1	3.5	6.7	40.3	150.1	161.6	311.6	10.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. **Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967**

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2821	Plastics materials and resins	1977	10,818.2	8,967.8	1,588.5	261.9	85	12,181.1	8,967.8	3,213.3	74
		1972	4,478.2	3,550.1	850.5	77.5	81	4,486.4	3,550.1	936.3	79
		1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
2822	Synthetic rubber	1977	1,863.3	1,670.3	156.8	35.6	91	2,354.1	1,670.3	683.8	71
		1972	1,089.4	950.5	110.6	28.3	90	1,288.6	950.5	338.1	74
		1967	926.9	814.4	97.4	15.2	89	1,004.9	814.4	190.5	81
2823	Cellulosic manmade fibers	1977	998.9	(D)	(D)	(D)	(D)	851.1	(D)	(D)	(D)
		1972	627.9	(D)	(D)	(D)	(D)	684.6	(D)	(D)	(D)
		1967	902.8	(D)	(D)	(D)	(D)	681.1	(D)	(D)	(D)
2824	Organic fibers, noncellulosic	1977	6,379.8	5,308.7	1,002.4	68.7	84	5,471.5	5,308.7	162.8	97
		1972	3,601.4	2,853.6	708.2	39.5	80	2,949.1	2,853.6	95.5	97
		1967	2,033.2	1,863.9	159.9	9.4	92	1,974.1	1,863.9	110.2	94

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Plastics materials and resins (SIC 2821)	Synthetic rubber (SIC 2822)	Cellulosic manmade fibers (SIC 2823)	Organic fibers, noncellulosic (SIC 2824)	Other industries
	Total	(X)	10,818.2	1,863.3	998.9	6,379.8	(X)
	Primary products	(X)	8,967.8	1,670.3	(D)	5,308.7	(X)
	Secondary products	(X)	1,588.5	156.8	(D)	1,002.4	(X)
	Miscellaneous receipts	(X)	261.9	35.6	(D)	68.7	(X)
2821-	Plastics materials and resins	12,181.1	8,967.8	(D)	-	(D)	2,879.5
28213	Thermoplastic resins and plastics materials	9,897.7	7,367.0	(D)	-	(D)	2,223.6
28214	Thermosetting resins and plastics materials	2,226.7	(D)	(D)	-	-	(D)
28210	Plastics materials and resins, n.s.k.	56.7	(D)	-	-	-	(D)
28220	Synthetic rubber (vulcanizable elastomers)	2,354.1	85.9	1,670.3	-	-	597.9
28233	Rayon and acetate fiber	851.1	-	-	(D)	(D)	-
2824-	Organic fibers, noncellulosic	5,471.5	(D)	-	(D)	5,308.7	(D)
28241	Nylon fibers, except producer textured	1,962.9	-	-	-	(D)	(D)
28243	Acrylic and modacrylic fibers, except textured	495.8	-	-	(D)	(D)	-
28244	Polyester fibers, except producer textured	1,938.6	-	-	(D)	1,809.9	(D)
28245	Other noncellulosic manmade fibers, except producer textured	178.2	(D)	-	(D)	168.0	(D)
28246	Producer textured manmade fibers, group filament	890.6	-	-	-	890.6	-
28240	Organic fibers, noncellulosic, n.s.k.	5.4	-	-	-	(D)	(D)
	Other shipments by 4-digit product group:						
2281-	Yarns, except wool	(X)	-	-	-	(D)	(X)
2295-	Coated fabrics, not rubberized	(X)	(D)	-	-	-	(X)
2297-	Nonwoven fabrics	(X)	-	-	-	(D)	(X)
2298-	Cordage and twine	(X)	(D)	-	-	-	(X)
2299-	Textile goods, n.e.c.	(X)	-	-	-	(D)	(X)
2621-	Paper mill products, except building paper	(X)	(D)	-	-	-	(X)
2649-	Converted paper products, n.e.c.	(X)	(D)	-	-	-	(X)
2812-	Alkalies and chlorine	(X)	(D)	-	-	-	(X)
2813-	Industrial gases	(X)	(D)	-	-	-	(X)
2819-	Industrial inorganic chemicals, n.e.c.	(X)	(D)	(D)	(D)	(D)	(X)
2833-	Medicinals and botanicals	(X)	(D)	-	-	-	(X)
2841-	Soap and other detergents	(X)	(D)	-	-	-	(X)
2843-	Surface active agents	(X)	(D)	-	(D)	-	(X)
2851-	Paints and allied products	(X)	28.2	-	-	-	(X)
2861-	Gum and wood chemicals	(X)	(D)	-	-	-	(X)
2865-	Cyclic crudes and intermediates	(X)	110.2	-	-	(D)	(X)
2869-	Industrial organic chemicals, n.e.c.	(X)	(D)	108.8	(D)	(D)	(X)
2873-	Nitrogenous fertilizers	(X)	(D)	-	-	-	(X)
2879-	Agricultural chemicals, n.e.c.	(X)	(D)	-	-	-	(X)
2891-	Adhesives and sealants	(X)	67.5	(D)	-	(D)	(X)
2899-	Chemical preparations, n.e.c.	(X)	67.5	-	-	-	(X)
2911-	Petroleum refining products	(X)	(D)	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	406.2	-	-	(D)	(X)
3231-	Products of purchased glass	(X)	(D)	-	-	-	(X)
3861-	Photographic equipment and supplies	(X)	(D)	-	-	-	(X)
	Miscellaneous receipts:						
93000 00	Contract work	(X)	48.2	(D)	(D)	(D)	(X)
99980 13	Sales of scrap	(X)	(D)	(D)	(D)	(D)	(X)
99980 41	Receipts for research and developmental work	(X)	(D)	-	-	-	(X)
99980 98	Other miscellaneous receipts	(X)	40.5	-	(Z)	(D)	(X)
99989 00	Resales	(X)	168.8	(D)	(D)	62.7	(X)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
2821-	2812 Alkalies and chlorine	108.6	2821-	2911 Petroleum refining	(D)
	2819 Industrial inorganic chemicals, n.e.c.	(D)		3079 Miscellaneous plastics products	92.0
	2843 Surface active agents	17.8		3229 Pressed and blown glass, n.e.c.	(D)
	2851 Paints, varnishes, lacquers, enamels, and allied products	137.7	2822-	2865 Cyclic crudes and intermediates	(D)
	2861 Gum and wood chemicals	24.1		2869 Industrial organic chemicals, n.e.c.	404.7
				2911 Petroleum refining	(D)
	2865 Cyclic crudes and intermediates	384.4		3011 Tires and inner tubes	(D)
	2869 Industrial organic chemicals, n.e.c.	1,820.4		3069 Fabricated rubber products, n.e.c.	9.5
	2879 Pesticides and agricultural chemicals, n.e.c.	(D)		3079 Miscellaneous plastics products	(D)
	2891 Adhesives and sealants	38.7			
	2892 Explosives	(D)	2824-	2284 Thread mills	(D)
	2899 Chemical preparations, n.e.c.	41.0		2869 Industrial organic chemicals, n.e.c.	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	PLASTICS MATERIALS AND RESINS[2]			
2821- --	Total	(NA)	12,181.1	4,486.4
28213 --	Thermoplastic resins and plastics materials:			
28213 00	Thermoplastic resins and plastics materials, including resins for protective coatings	198	9,897.7	3,576.8
28214 --	Thermosetting resins and plastics materials:			
28214 00	Thermosetting resins and plastics materials, including resins for protective coatings	130	2,226.7	904.9
28210 00	Plastics materials and resins, n.s.k., typically for establishments with 5 employees or more[3]	(NA)	56.7	4.7

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[4]	Value (million dollars)		Quantity	Value (million dollars)
	SYNTHETIC RUBBER[5]								
2822- --	Total	.....	(NA)	(X)	(X)	2,354.1	X)	(X)	1,288.6
28220 --	Synthetic rubber (vulcanizable elastomers):								
28220 00	Synthetic (chemical) rubber and other synthetic elastomers, vulcanizable	Million lb....	55	6,133.6	6,212.3	2,343.4	(S)	(S)	1,286.6
28220 02	Synthetic rubber (vulcanizable elastomers), n.s.k., typically for companies with less than 5 employees (see note)	.....	(NA)	(X)	(X)	10.7	(X)	(X)	2.0

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Production for all purposes	Product shipments[1]	
			1977		Quantity[4]	Value (million dollars)
	CELLULOSIC MANMADE FIBERS					
2823- --	Total	Million lb....	(NA)	1,248.7	1,208.2	851.1
28233 --	Rayon and acetate fiber		-	-	-	-
	Yarn, including strip:					
28233 33	Monofilament		-	-	-	-
28233 35	Group (multi) filament, including textured, crimped, and bulked filament yarns[6]		5	362.1	359.3	336.8
28233 41	Staple		4			
28233 51	Tow		3	886.6	848.9	514.3
28233 61	Salable waste for textile use	Million lb....	2			
28230 00	Cellulosic manmade fibers, n.s.k. (see note)[3]	.....	-	-	-	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Production for all purposes	Product shipments	
					Quantity	Value (million dollars)
			1972			
	CELLULOSIC MANMADE FIBERS--Con.					
2823- --	Total	.....	(X)	(X)	(X)	684.6
28231 --	Acetate yarn	Million lb....	(X)	492.4	536.0	295.3
	Packaged yarn:					
28231 11	45 denier (47 denier and finer)		(X)	74.5	100.7	69.1
28231 13	55 denier (48 to 62 denier)					
28231 15	75 denier (63 to 87 denier)		(X)	66.7	76.5	52.8
28231 17	100 denier (88 to 112 denier)		(X)	34.5	35.4	22.9
28231 21	120 denier (113 to 137 denier)					
28231 23	150 denier (138 to 162 denier)					
28231 25	200 denier (163 to 237 denier)					
28231 27	300 denier (238 denier and more)		(X)	316.7	323.4	150.5
28231 41	Staple					
28231 59	Tow, except cigarette filter					
28231 98	Other acetate products, n.e.c., including salable waste					
28231 00	Acetate yarn, n.s.k					
28232 --	Rayon yarn, viscose, and cuprammonium processes		(X)	(S)	(S)	387.8
	Packaged yarn, including rayon horsehair, straw, etc. (monofilament by denier):					
28232 11	45 denier (47 denier and finer)					
28232 13	55 denier (48 to 62 denier)					
28232 15	75 denier (63 to 87 denier)		(X)	11.4	11.8	11.8
28232 17	100 denier (88 to 112 denier)					
28232 21	125 denier (113 to 137 denier)					
28232 23	150 denier (138 to 162 denier)		(X)	48.2	45.6	39.4
28232 25	200 denier (163 to 237 denier)		(X)	16.6	17.0	15.9
28232 27	250 and 300 denier (238 to 374 denier)					
28232 31	450 denier (375 to 524 denier)					
28232 33	600 denier (525 to 749 denier)					
28232 35	900 denier (750 to 999 denier)		(X)	24.1	24.2	19.4
28232 37	1,100 denier (1,000 to 1,374 denier)					
28232 39	1,650 denier (1,375 denier and more)		(X)	139.0	141.2	78.7
28232 41	Staple		(X)	691.7	671.1	210.2
28232 51	Tow					
28232 61	Waste, including staple waste					
28232 98	Other rayon products, n.e.c		(X)	(S)	(S)	12.4
28232 00	Rayon yarn, viscose, and cuprammonium processes, n.s.k	Million lb....				
28230 00	Cellulosic manmade fibers, n.s.k., typically for establsihments with 5 employees or more (see note)	.....	(X)	(X)	(X)	1.5
28230 02	Cellulosic manmade fibers, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(X)	(X)	X	Z

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[4]	Value (million dollars)		Quantity	Value (million dollars)
	SYNTHETIC ORGANIC FIBERS, NONCELLULOSIC								
2824- --	Total	.....	(NA)	(X)	(X)	5,471.5	(X)	(X)	2,949.1
28241 --	Nylon fibers, except producer textured	Million lb....	(NA)	2,153.0	2,150.2	1,962.9	2,206.7	1,820.9	1,251.8
	Yarn, including strip:								
28241 14	Monofilament		9	47.8	47.1	76.3	1,468.3	1,093.8	938.8
28241 16	Group (multi) filament, feed flat		6	1,101.8	1,099.2	1,280.7			
28241 33	Staple		9	819.7	825.6	548.4			
28241 35	Tow		5	29.4	29.4	19.2	738.4	727.1	313.0
28241 43	Salable waste for textile use	Million lb....	5	154.3	148.9	38.3			
28241 00	Nylon fibers, except producer textured, n.s.k	.....	-	(X)	(X)	-	(X)	(X)	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity[4]	Product shipments[1] Value (million dollars)	Quantity of production for all purposes	Product shipments Quantity	Product shipments Value (million dollars)
2824- --	SYNTHETIC ORGANIC FIBERS, NONCELLULOSIC--Con.								
28243 --	Acrylic and modacrylic fibers, except producer textured	Million lb.	(NA)	695.0	741.4	495.8	654.9	652.9	[7]331.9
	Yarn, including strip:								
28243 29	Monofilament		-	-	-	-	654.9	652.9	331.9
28243 32	Group (multi) filament, feed flat		2	(D)	(D)	(D)			
28243 33	Staple		5	586.2	571.3	370.2			
28243 35	Tow		3	(D)	(D)	(D)			
28243 37	Salable waste for textile use	Million lb.	3	(D)	(D)	(D)			
28243 00	Acrylic and modacrylic fibers, except producer textured, n.s.k.		-	(X)	(X)	-	(X)	(X)	([7])
28244 --	Polyester fibers, except producer textured	Million lb.	(NA)	3,322.3	3,307.1	1,938.6	2,485.9	2,317.0	[7]1,229.4
	Yarn, including strip:								
28244 31	Monofilament		3	29.5	29.5	36.8	906.3	863.7	742.3
28244 33	Group (multi) filament, feed flat		9	1,132.6	1,130.8	810.2			
28244 35	Staple		8	2,023.6	1,995.6	1,057.1	1,579.6	1,453.3	487.1
28244 37	Tow and fiberfill		3						
28244 39	Salable waste for textile use	Million lb.	8	136.6	151.2	34.1			
28244 00	Polyester fibers, except producer textured, n.s.k.		-	(X)	(X)	-	(X)	(X)	([7])
28245 --	Other noncellulosic manmade fibers, except producer textured	Million lb.	(NA)	138.8	138.0	178.2	217.1	143.0	[7]132.7
	Polyolefin:								
	Yarn, including strip:								
28245 61	Monofilament		3	(D)	(D)	(D)	100.7	34.7	30.0
28245 63	Group (multi) filament, feed flat		3	(D)	(D)	(D)			
28245 66	Staple		4	(D)	(D)	(D)	94.4	86.7	41.6
28245 67	Tow		-	(D)	(D)	(D)			
28245 68	Salable waste for textile use		2	(D)	(D)	(D)			
	Other noncellulosic manmade fibers, except glass, including saran, spandex and vinyon, fluorocarbon, etc.:								
	Yarn, including strip:								
28245 73	Monofilament		2	(D)	(D)	(D)	22.0	21.6	60.3
28245 72	Group (multi) filament, feed flat		4	(D)	(D)	(D)			
28245 74	Staple		2	(D)	(D)	(D)			
28245 75	Tow		-	-	-	-	(X)	(X)	-
28245 76	Salable waste for textile use	Million lb.	-	-	-	-	(X)	(X)	-
28245 00	Other noncellulosic manmade fibers, except producer textured, n.s.k.		-	(X)	(X)	-	(X)	(X)	[7].8
28246 --	Producer textured manmade fibers, group (multi) filament	Million lb.	(NA)	900.6	894.2	[8]890.6	(X)	(X)	([8])
28246 15	Nylon		7	385.4	385.8	421.0	(X)	(X)	([8])
28246 31	Acrylic and nonacrylic		-	-	-	-			
28246 51	Polyester		10	415.8	406.2	357.8			
28246 62	Polyolefin		3	99.4	102.2	111.8			
28246 71	Other noncellulosic manmade fibers, except glass	Million lb.	1						
28246 00	Producer textured manmade fibers, group (multi) filament, n.s.k.		-	(X)	(X)	-			
28240 00	Organic fibers, noncellulosic, n.s.k., typically for establishments with 5 employees or more (see note)[3]		(NA)	(X)	(X)	5.4	(X)	(X)	3.3

Footnotes are on next page.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than $50,000 dollars or hours; under 50 employees.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]Data on production and quantity and value of sales of specific resins are published in U.S. International Trade Commission report, Synthetic Organic Chemicals.

[3]For 1977, there were no establishments for which administrative records were used.

[4]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quanity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[5]For quantity of production of individual synthetic rubbers, see Current Industrial Reports MA-30A, "Rubber: Supply and Distribution for the U.S." For 1977 and 1972. For quantity of production and quantity and value of sales, see International Trade Commission's Annual Report, "Synthetic Organic Chemicals" for 1977 and 1972.

[6]Data include shipments of producer-textured manmade fibers, formerly classified in industry 2282, product code 22814 00, Textured, crimped, or bulked filament yarns, including stretch yarns.

[7]For 1972, product class totals 28243 and 28244 exclude values of noncellulosic manmade fibers, except producer textured, n.s.k. Producer textured n.s.k. data are included with product code 28245 00.

[8]Because of 1977 revisions in standard industrial classification, data for producer textured manmade fibers, are not available for 1972. 1972 data may be found in industry 2282, product class 22824.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28213, THERMOPLASTIC RESINS AND PLASTICS MATERIALS		
United States	9,897.7	3,567.8
New England Division:		
Massachusetts	242.1	193.9
Rhode Island	2.1	CC
Connecticut	91.2	41.7
Middle Atlantic Division:		
New York	156.2	63.6
New Jersey	640.7	250.1
Pennsylvania	302.0	229.4
East North Central Division:		
Ohio	637.8	317.3
Illinois	685.5	239.6
Michigan	316.3	GG
West North Central Division:		
Missouri	43.2	EE
South Atlantic Division:		
Delaware	147.9	75.2
Virginia	78.5	EE
West Virginia	577.9	256.1
North Carolina	101.1	BB
South Carolina	121.0	BB
Georgia	69.7	EE
Florida	95.1	31.2
East South Central Division:		
Kentucky	374.1	146.7
Tennessee	318.5	GG
West South Central Division:		
Louisiana	997.6	GG
Texas	2,795.0	790.4
Pacific Division:		
California	336.2	114.4
28214, THERMOSETTING RESINS AND PLASTICS MATERIALS		
United States	2,226.7	904.9
New England Division:		
Massachusetts	96.1	FF
Middle Atlantic Division:		
New York	125.1	GG
New Jersey	170.1	GG
Pennsylvania	155.8	40.2
28214, THERMOSETTING RESINS AND PLASTICS MATERIALS--Con.		
East North Central Division:		
Ohio	210.2	95.5
Indiana	19.0	BB
Illinois	66.7	29.2
Michigan	42.7	FF
Wisconsin	66.8	34.6
South Atlantic Division:		
North Carolina	79.0	22.6
South Carolina	39.8	EE
Georgia	34.4	CC
Florida	26.0	EE
East South Central Division:		
Kentucky	84.9	CC
Alabama	24.2	11.3
Mississippi	30.2	FF
West South Central Division:		
Texas	411.7	73.1
Pacific Division:		
Oregon	30.9	EE
California	159.8	71.3
28241, NYLON FIBERS, EXCEPT PRODUCER TEXTURED		
United States	1,962.9	1,251.8
South Atlantic Division:		
North Carolina	69.7	GG
South Carolina	569.0	279.3
28244, POLYESTER FIBERS, EXCEPT PRODUCER TEXTURED		
United States	1,938.6	1,229.4
South Atlantic Division:		
South Carolina	522.3	(NA)
28246, PRODUCER TEXTURED MANMADE FIBERS, GROUP FILAMENT		
United States	890.6	(NA)
South Atlantic Division:		
Virginia	262.3	(NA)
North Carolina	248.1	(NA)
South Carolina	202.8	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies. AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2821-	Plastics materials and resins	12,181.1	10,455.0	7,747.5	8,443.8	5,686.9	4,486.4	2,784.9	(NA)
28213	Thermoplastic resins and plastics materials	9,897.7	8,436.0	6,112.0	6,687.9	4,543.1	3,576.8	2,756.2	2,003.7
28214	Thermosetting resins and plastics materials	2,226.7	2,007.9	1,613.2	1,746.6	1,127.3	904.9		
28210	Plastics materials and resins, n.s.k.	56.7	(10.8)	22.1	9.3	(16.5)	4.7	28.7	(NA)
28220	Synthetic rubber (vulcanizable elastomers)	2,354.1	2,204.4	1,820.0	1,861.6	1,397.1	1,288.6	1,004.9	862.3
2823-	Cellulosic manmade fibers	851.1	[2]812.7	[2]780.2	[2]897.9	[2]744.0	[2]684.6	[2]681.1	[2]648.9
28233	Rayon and acetate fiber	851.1	812.7	780.2	897.9	744.0	684.6	681.1	648.9
2824-	Organic fibers, noncellulosic	5,471.5	[2]4,414.1	[2]4,035.5	[2]3,866.9	[2]3,953.9	[2]2,949.1	[2]1,974.1	1,368.3
28241	Nylon fibers, except producer textured	1,962.9	1,614.2	1,469.7	1,567.4	1,526.9	1,251.8	1,068.4	896.1
28243	Acrylic and modacrylic fibers, except textured	495.8					331.9		
28244	Polyester fibers, except producer textured	1,938.6	2,791.3	2,562.1	2,298.9	2,422.7	1,229.4	905.3	472.2
28245	Other noncellulosic manmade fibers, except producer	178.2					132.7		
28246	Producer textured manmade fibers, group filament	890.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
28240	Organic fibers, noncellulosic, n.s.k.	5.4	(8.5)	(3.7)	(0.6)	4.3	3.3	0.4	-

- Represents zero. (NA) Not available. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]For 1976 and earlier, value of shipments for industries 2823 and 2824 excluded shipments of producer textured manmade fibers. Data for those years were included in industry 2282, product class 22824.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	1977			1972		
				Consumption of materials received from other establishments		Materials made and consumed in same plant	Consumption of materials received from other establishments		Materials made and consumed in same plant
				Quantity[1]	Delivered cost (million dollars)		Quantity	Delivered cost (million dollars)	
	INDUSTRY 2821, PLASTICS MATERIALS AND RESINS								
	Materials, containers, and supplies	.....	.....	(X)	6,119.7	(X)	(X)	2,120.0	(X)
	Synthetic organic chemicals:								
286925	Acrylates and methacrylates, monomers	100%.....	Million lb....	1,429.1	382.0	(D)	789.5	101.6	(D)
286921	Acrylonitrile	.....		256.8	60.1	(X)	274.1	30.9	(X)
286920	Alcohols, except ethyl	100%.....		520.7	80.1	(X)	490.4	20.1	(X)
286924	Cellulose acetate	100%.....		205.0	42.6	(X)	(D)	(D)	(X)
286923	Formaldehyde	100% HCHO.		989.9	75.6	(S)	1,362.2	30.8	1,281.9
286935	Plasticizers	.....	Million lb....	169.1	65.6	(D)	205.9	58.5	(D)
286933	Rubber processing chemicals (accelerators, antioxidants, blowing agents, inhibitors, peptizers, etc.).	.....	.....	(X)	(D)	(X)	(X)	18.7	(X)
286927	Vinyl acetate, monomer	100%.....	Million lb....	551.2	111.7	(D)	425.3	35.2	(D)
286928	Vinyl chloride, monomer	100%.....		3,378.4	502.6	(D)	2,591.4	124.4	(D)
286535	Synthetic organic dyes, pigments, lakes, and toners	100%.....		46.0	21.4	(X)	(X)	(2)	(X)
286516	Styrene	100%.....		4,389.7	778.5	(D)	3,122.2	189.1	(D)
286515	Melamine	100%.....		60.1	18.4	(D)	50.7	8.7	(D)
286513	Phenol	100%.....		910.8	178.7	(D)	629.2	43.0	(D)
286514	Phthalic anhydride	100%.....		210.7	52.3	(D)	227.2	19.2	(D)
286552	Benzol (benzene)	100%.....	Million lb....	173.7	23.7	(D)	(X)	(2)	(X)
286001	Other synthetic organic chemicals	.....	.....	(X)	399.8	(X)	(X)	(2)	(X)
291167	Butadiene	100%.....	Million lb....	381.6	78.2	(X)	344.6	28.1	(X)
	Liquid petroleum and refinery gases used as raw materials or feedstocks:								
291161	Ethane and ethylene	.....		6,039.5	641.4	-			
291162	Propane and propylene	.....		2,698.5	227.8	-			
291163	Butane, butylene, and isobutane	.....		861.7	46.6	-	5,525.2	174.3	(D)
291160	Other, including isoprene, isobutylene, mixtures, still gas, etc	.....	Million lb....	416.7	64.6	-			
131152	Natural gas used as a raw material	.....	Billion cu. ft	(D)	(D)	(X)	(X)	(2)	(X)
291171	Extender oils of petroleum origin	.....	Million lb....	109.4	11.2	(X)	(S)	6.8	(X)
290002	Other refined petroleum products	.....	.....	(X)	163.1	(X)	(X)	(2)	(X)
287321	Urea	100%.....	1,000 s. tons.	251.3	26.7	-	346.9	9.7	(X)
286104	Wood rosin, turpentine, and other wood chemicals, including tall oil	.....	Million lb....	(X)	23.6	(X)	(X)	(2)	(X)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	Million lb....	839.0	268.2	291.7	572.8	86.8	235.5
281931	Sulfuric acid, except spent acid	100% H_2SO_4	1,000 s. tons.	43.8	1.8	(D)	90.0	1.9	(D)
281600	Inorganic pigments	100%.....	Million lb....	47.9	27.0	(X)	(X)	(2)	(X)
281901	All other inorganic chemicals	.....	.....	(X)	57.6	(X)	(X)	(2)	(X)
284101	Soap and detergents	.....	Million lb....	40.5	13.4	(X)	39.9	6.3	(X)
284141	Glycerin	100%.....		20.6	10.4	(X)	26.1	5.7	(X)
289501	Carbon black	.....		36.3	7.2	(X)	(D)	(D)	(X)
207006	Fats and oils, all types, purchased as such, including animal, vegetable, and marine fats and oils, except fatty acids	.....	Million lb....	104.0	31.1	(X)	(X)	(2)	(X)
261105	Wood pulp, excluding wood flour	Air dry...	1,000 s. tons.	53.8	19.3	(X)	44.1	5.8	(X)
260091	Paper and paperboard containers	.....	.....	(X)	69.8	(X)	(X)	40.3	(X)
340101	Metal containers, except collapsible tubes	.....	.....	(X)	32.5	(X)	(X)	(2)	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	1,224.7	(X)	(X)	[2]1,043.4	(X)
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	221.7	(X)	(X)	30.7	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972 - Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	1977		1972	
				Consumption of materials received from other establishments		Consumption of materials received from other establishments	
				Quantity	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 2822, SYNTHETIC RUBBER						
	Materials, containers, and supplies	.....	.....	(X)	1,161.1	(X)	556.5
	Synthetic organic chemicals:						
286925	Acrylates and methacrylates, monomers	100%.....	Million lb....	5.6	3.3	(X)	(2)
286921	Acrylonitrile	.....		19.7	5.3	74.6	6.4
286920	Alcohols, except ethyl	100%.....		(D)	(D)	(X)	(2)
286923	Formaldehyde	100% HCHO.		(D)	(D)	(X)	(2)
286935	Plasticizers	.....		(D)	(D)	(X)	(2)
286933	Rubber processing chemicals (accelerators, antioxidants, blowing agents, inhibitors, peptizers, etc.)	.....		(X)	33.9	X	37.2
286927	Vinyl acetate, monomer	100%.....		(D)	(D)	(X)	(2)
286535	Synthetic organic dyes, pigments, lakes, and toners	100%.....		(D)	(D)	X	(2)
286516	Styrene	100%.....		572.3	114.2	632.4	38.5
286513	Phenol	100%.....		(D)	(D)	X	(2)
286552	Benzol (benzene)	100%.....	Million lb....	(X)	109.4	(X)	(2)
286001	Other synthetic organic chemicals	.....	.....				
291167	Butadiene	100%.....	Million.lb....	2,288.8	464.0	2,520.9	205.0
	Liquid petroleum and refinery gases used as raw materials or feedstocks:						
291161	Ethane and ethylene	.....					
291162	Propane and propylene	.....					
291163	Butane, butylene, and isobutane	.....		905.9	98.5	(X)	2)
291160	Other, including isoprene, isobutylene, mixtures, still gas, etc	.....					
291171	Extender oils of petroleum origin	.....	Million lb....	694.1	35.2	730.9	14.5
290002	Other refined petroleum products	.....	.....	(X)	2.0	X	(2)
287321	Urea	100%.....	1,000 s. tons.	(D)	(D)	X	(2)
286104	Wood rosin, turpentine, and other wood chemicals, including tall oil	.....	Million lb....	65.6	16.6	(X)	2)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	Million lb....	(D)	(D)	X	2)
281931	Sulfuric acid, except spent acid	100% H_2SO_4	1,000 s. tons.	37.6	1.1	80.9	2.1
281600	Inorganic pigments	100%.....	Million lb....	25.2	2.3	X	(2)
281901	All other inorganic chemicals	.....	.....	(X)	48.7	(X)	(2)
284101	Soap and detergents	.....	Million lb....	60.9	13.7	133.4	17.7
289501	Carbon black	.....		409.0	59.2	367.5	29.0
207006	Fats and oils, all types, purchased as such, including animal, vegetable, and marine fats and oils, except fatty acids	.....	Million lb....	(D)	(D)	(X)	(2)
261105	Woodpulp, excluding wood flour	Air dry...	1,000 s. tons.	(D)	(D)	(X)	(2)
260091	Paper and paperboard containers	.....	.....	(X)	11.5	(X)	9.3
340101	Metal containers, except collapsible tubes	.....	.....	(X)	12.3	(X)	(2)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	93.1	(X)	2191.0
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	19.7	(X)	5.8

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972 – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	1977		1972	
				Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 2823, CELLULOSIC MANMADE FIBERS						
	Materials, containers, and supplies	.....	.....	(X)	567.1	(X)	264.7
	Synthetic organic chemicals:						
286929	Acetic anhydride	100%.....	Million lb.....	(D)	(4)	(D)	(2)
286925	Acrylates and methacrylates, monomers	100%.....		(D)	(4)	-	-
286921	Acrylontrile	100%.....		(D)	(4)	(D)	(2)
286963	Caprolactam	100%.....		-	-	-	-
286965	Glycols (ethylene, propylene, etc.)	100%.....		(D)	(4)	(D)	(2)
286535	Synthetic organic dyes, pigments, lakes, and toners	100%.....	Million lb.....	(D)	(4)	(X)	(2)
286001	All other synthetic organic chemicals	.....	.....	(X)	4167.8	(X)	(2)
	Inorganic chemicals:						
281238	Sodium hydroxide (caustic soda)	100% NaOH..	1,000 s. tons..	(D)	(D)	308.0	12.4
281931	Sulphuric acid, except spent acid	100% H_2SO_4.	1,000 s. tons..	481.9	14.4	483.9	8.4
281901	All other industrial inorganic chemicals	.....	.....	(X)	19.4	(X)	(2)
	Plastics resins:						
282131	Polypropylene resins	Dry basis..	Million lb.....	-	-	-	-
282135	Nylon resins	Dry basis..		-	-	(X)	(2)
282105	All other plastics resins	Dry basis..		(D)	(D)	(X)	(2)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....		(X)	-	(X)	(2)
	Liquefied petroleum and refinery gases used as raw materials or feedstock:						
291161	Ethane and ethylene	.....		-	-	(X)	(2)
291162	Propane and propylene	.....		-	-	(X)	(2)
291163	Butane, butylene, and isobutane	.....		-	-	(X)	(2)
291160	Other, including mixtures and still gas	.....	Million lb.....	(D)	(D)	(X)	(2)
131152	Natural gas used as a raw material	.....	Billion ft.....	-	-	(X)	(2)
261105	Wood pulp, excluding wood flour	Air dry....	1,000 s. tons..	425.0	162.8	568.9	111.5
260091	Paper and paperboard containers, including shipping sacks	.....	.....	(X)	10.5	(X)	5.4
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	58.1	(X)	2126.4
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	.3	(X)	.6
	INDUSTRY 2824, ORGANIC FIBERS, NONCELLULOSIC						
	Materials, containers, and supplies	.....	.....	(X)	3,150.2	(X)	1,414.4
	Synthetic organic chemicals:						
286929	Acetic anhydride	100%.....	Million lb.....	(D)	(D)	(D)	(2)
286925	Acrylates and methacrylates, monomers			(D)	(D)	27.4	4.4
286921	Acrylonitrile			857.4	208.2	640.0	71.0
286963	Caprolactam			745.1	304.0	763.9	141.0
286965	Glycols (ethylene, propylene, etc.)			1,336.1	265.6	1,141.9	62.7
286914	Hexamethylenediemine			(D)	(D)	(D)	(2)
286517	Dimethylterephthalate (DMT)			630.3	134.8	(X)	(2)
286518	Terephtalic acid (TPA)			1,216.3	250.5	(X)	(2)
286535	Synthetic organic dyes, pigments, lakes, and toners	100%.....	Million lb.....	7.2	21.8	(X)	521.0
286001	All other synthetic organic chemicals	.....	.....	(X)	(D)	(X)	(2)
	Inorganic chemicals:						
281238	Sodium hydroxide (caustic soda)	100% NaOH..	1,000 s. tons..	72.3	8.0	(D)	(2)
281931	Sulphuric acid, except spent acid	100% H_2SO_4.	1,000 s. tons..	(D)	(D)	(D)	(2)
281901	All other industrial inorganic chemicals	.....	.....	(X)	38.4	(X)	(2)
	Plastics resins:						
282131	Polypropylene resins	Dry basis..	Million lb.....	508.3	151.5	(S)	(S)
282135	Nylon resins			281.0	135.7	(X)	(2)
282105	All other plastics resins	Dry basis..		377.2	128.5	(X)	(2)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....		(X)	(D)	(X)	(2)
	Liquefied petroleum and refinery gases used as raw materials or feedstock:						
291161	Ethane and ethylene	.....		(D)	(D)	(X)	(2)
291162	Propane and propylene	.....		(D)	(D)	(X)	(2)
291163	Butane, butylene, and isobutane	.....		-	-	(X)	(2)
291160	Other, including mixtures and still gas	.....	Million lb.....	(D)	(D)	(X)	(2)
131152	Natural gas used as a raw material	.....	Billion cu. ft.	(D)	(D)	(X)	(2)
261105	Wood pulp, excluding wood flour	Air dry....	1,000 s. tons..	(D)	(D)	(D)	(2)
260091	Paper and paperboard containers, including shipping sacks	.....	.....	(X)	80.4	(X)	43.4
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	496.2	(X)	21,065.9
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	.5	(X)	5.0

Footnotes are on next page.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, these material codes were included with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1977, these codes were included with material code 286001 to avoid disclosing operations of individual companies.

[5]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

Drugs

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DESCRIPTION OF INDUSTRIES

DRUGS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
2831	Biological Products
2833	Medicinals and Botanicals
2834	Pharmaceutical Preparations

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2831, BIOLOGICAL PRODUCTS

This industry comprises establishments primarily engaged in the production of bacterial and virus vaccine, toxoids and analogous products (such as allergernic extracts), serums, plasmas, and other blood derivatives for human or veterinary use.

The total value of shipments for establishments classified in the Biological Products industry amounted to $899 million in 1977, an increase of 150 percent from 1972. The value of shipments of products classified as primary to the industry was $1,068 million, an increase of 115 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $563 million in 1977, was 143 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.7 thousand employees, an increase of 55 percent from 1972. The leading States in employment were California, New Jersey, Maryland, and Florida, accounting for approximately 48 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 2833, MEDICINALS AND BOTANICALS

This industry comprises establishments primarily engaged in the manufacture of bulk organic and inorganic chemicals and their derivatives; and processing (grading, grinding, and milling) bulk botanical drugs and herbs. Establishments primarily engaged in the manufacture of agar-agar and similar products of natural origin, endocrine products, manufacture or isolation of basic vitamins, and the isolation of active medicinal principals such as alkaloids from botantical drugs and herbs are also included in this industry.

The total value of shipments for establishments classified in the Medicinals and Botanicals industry amounted to $1,890 million in 1977, an increase of 271 percent from 1972. The value of shipments of products classified as primary to the industry was $2,206 million, an increase of 178 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were synthetic organic chemicals, in bulk, for which shipments increased 181 percent. Value added by manufacture, at $1,162 million in 1977, was 347 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 14.4 thousand employees, an increase of 85 percent from 1972. The leading States in employment were New Jersey, Connecticut, Missouri, and Indiana, accounting for approximately 70 percent of the industry's 1977 employment. Data for these States have been withheld to avoid disclosing operations of individual companies.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 2834, PHARMACEUTICAL PREPARATIONS

This industry comprises establishments primarily engaged in manufacturing, fabricating, or processing drugs in pharmaceutical preparations for human or veterinary use. The greater part of the products of these establishments is finished in the form intended for final consumption, such as ampuls, tablets, capsules, ointments, medicinal powders, solutions, and suspensions. Products of this industry consist of two important lines, namely: (1) pharmaceutical preparations promoted primarily to the dental, medicinal, or veterinary professions; and (2) pharmaceutical preparations promoted primarily to the public.

The total value of shipments for establishments classified in the Pharmaceutical Preparations industry amounted to $11,459 million in 1977, an increase of 60 percent from 1972. The value of shipments of products classified as primary to the industry was $9,640 million, an increase of 53 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were pharmaceutical preparations acting on the central nervous system and the sense organs, for human use, for which shipments increased 38 percent, vitamin, nutrient and hematinic preparations, for human use, for which shipments increased 91 percent. Value added by manufacture, at $8,214 million in 1977, was 46 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 126.4 thousand employees, an increase of 13 percent from 1972. The leading States in employment were New Jersey, New York, Illinois, and Pennsylvania, accounting for approximately 54 percent of the industry's 1977 employment. This represents a shift from 1972 when New Jersey, New York, Indiana, and Pennsylvania accounted for approximately 59 percent of the industry's employment.

The 1977 census obtained data on shipments of pharmaceutical preparations only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of pharmaceutical preparations are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-28G, Pharmaceutical Preparations, Except Biologicals. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2831, BIOLOGICAL PRODUCTS																
1977 Census--	249	310	113	15.7	210.2	8.8	17.3	90.5	563.4	350.6	898.5	35.4	(NA)	246.9	93	73
1976 ASM----	(NA)	(NA)	(NA)	13.0	178.8	7.3	14.8	74.4	445.5	271.2	719.0	31.6	284.7	201.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	13.4	164.3	7.2	14.3	67.9	429.1	252.7	662.7	43.4	334.1	204.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	13.8	156.0	7.0	13.7	59.8	358.8	215.6	546.8	51.4	281.1	182.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	10.8	117.4	5.8	11.1	44.7	253.0	160.0	387.3	23.7	204.3	133.9	(NA)	(NA)
1972 Census--	156	182	62	10.1	102.9	5.3	10.4	40.4	231.4	144.4	360.0	27.2	185.5	109.6	87	60
1971 ASM----	(NA)	(NA)	(NA)	10.0	94.3	5.7	11.1	40.1	192.4	114.6	298.4	18.6	155.7	80.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.3	78.6	5.6	10.6	37.2	164.1	80.7	239.6	32.4	136.9	70.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	8.6	66.9	5.4	10.7	32.3	145.2	69.0	210.6	15.6	118.0	61.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	7.9	59.4	5.0	9.8	27.4	125.4	60.2	176.4	11.5	108.5	56.4	(NA)	(NA)
1967 Census--	119	128	44	7.4	53.8	4.8	9.3	25.1	109.2	56.4	160.0	12.1	97.7	46.1	90	61
1966 ASM----	(NA)	(NA)	(NA)	5.6	39.6	3.5	7.2	18.4	78.8	36.4	108.4	11.5	(NA)	35.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	5.2	35.7	3.2	6.4	16.3	64.6	33.7	96.6	6.3	(NA)	28.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	5.6	35.5	3.4	6.6	16.1	63.2	33.6	97.8	6.6	68.0	28.4	(NA)	(NA)
1963 Census--	102	113	40	5.8	33.8	3.6	7.2	17.0	60.4	38.2	95.7	10.1	62.3	29.5	88	45
INDUSTRY 2833, MEDICINALS AND BOTANICALS																
1977 Census--	154	177	76	14.4	219.9	8.4	17.1	127.2	1 162.2	739.0	1 889.9	123.8	(NA)	307.0	82	68
1976 ASM----	(NA)	(NA)	(NA)	14.1	194.9	7.7	15.5	107.4	912.5	617.9	1 532.6	130.3	1 002.8	291.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	13.5	172.9	7.6	15.2	97.1	677.9	523.0	1 181.6	110.3	890.5	299.1	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	12.8	162.5	7.7	16.6	98.6	656.0	485.2	1 093.6	70.7	742.5	270.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	8.2	97.3	4.8	9.6	51.9	386.7	277.0	650.3	28.2	431.3	135.8	(NA)	(NA)
1972 Census--	127	140	51	7.8	80.8	4.6	8.7	44.9	260.0	251.9	509.0	51.5	405.5	116.0	87	51
1971 ASM----	(NA)	(NA)	(NA)	11.4	110.9	6.5	12.8	61.1	289.0	292.7	570.2	82.5	463.1	153.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	10.1	96.0	6.7	14.4	61.3	288.4	268.9	544.9	48.5	438.5	128.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	9.0	79.8	6.1	12.0	48.9	272.6	220.7	496.0	23.7	291.4	94.8	(NA)	(NA)
1968 ASM[6]---	(NA)	(NA)	(NA)	8.7	73.1	5.8	11.8	45.1	250.7	220.7	460.6	31.6	275.7	94.1	(NA)	(NA)
1967 Census--	112	126	45	8.4	67.1	5.6	11.7	41.4	243.3	206.1	445.2	36.2	262.0	83.5	71	56
1966 ASM----	(NA)	(NA)	(NA)	5.2	41.8	3.3	7.1	22.2	149.1	142.0	285.1	17.2	(NA)	53.6	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	5.2	40.0	3.2	6.9	21.0	126.9	128.7	255.9	9.2	(NA)	47.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	5.8	42.8	3.6	7.7	23.0	113.9	136.4	252.5	8.8	209.9	51.5	(NA)	(NA)
1963 Census--	122	138	42	8.1	59.3	5.3	11.1	33.6	151.3	155.5	305.8	14.0	203.2	72.4	71	47
INDUSTRY 2834, PHARMACEUTICAL PREPARATIONS																
1977 Census--	655	756	293	126.4	2 029.5	63.1	123.1	779.4	8 214.4	3 394.2	11 459.4	419.3	(NA)	1 892.6	86	97
1976 ASM----	(NA)	(NA)	(NA)	124.0	1 849.5	62.1	120.6	712.2	7 975.1	2 924.0	10 764.6	309.2	3 347.8	1 726.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	122.8	1 701.9	60.2	115.5	634.7	6 923.1	2 481.7	9 387.8	321.4	3 049.3	1 523.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	120.7	1 539.4	60.6	118.4	593.4	6 404.6	2 188.7	8 412.3	278.1	2 749.4	1 485.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	120.9	1 384.2	60.5	119.0	555.1	5 988.2	1 897.7	7 711.8	207.2	2 669.2	1 121.7	(NA)	(NA)
1972 Census--	679	756	312	112.0	1 229.7	57.0	113.2	497.7	5 639.5	1 575.8	7 149.5	166.7	2 544.6	966.1	87	97
1971 ASM----	(NA)	(NA)	(NA)	113.6	1 173.5	57.4	114.4	461.3	5 034.0	1 398.3	6 392.5	195.7	2 428.5	875.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	111.9	1 137.7	59.7	119.9	457.6	4 678.0	1 309.3	5 993.9	250.1	2 223.5	843.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	107.8	996.8	58.9	116.7	412.5	4 444.9	1 179.6	5 565.9	247.6	1 859.0	768.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	102.3	868.7	54.9	109.1	364.6	3 977.2	1 043.2	5 008.3	185.3	1 671.8	630.7	(NA)	(NA)
1967 Census--	791	875	318	102.0	821.4	55.2	107.2	338.6	3 720.4	1 013.7	4 696.4	169.6	1 551.6	611.9	87	97
1966 ASM----	(NA)	(NA)	(NA)	98.3	761.1	53.6	107.9	327.9	3 446.9	1 018.0	4 432.4	133.8	(NA)	582.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	94.6	701.6	51.4	102.1	299.4	3 172.8	907.4	4 049.7	122.6	(NA)	521.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	90.2	639.8	49.4	99.3	273.8	2 766.2	815.2	3 571.1	102.7	1 242.2	469.0	(NA)	(NA)
1963 Census--	944	1 011	319	85.1	580.6	45.9	91.7	246.0	2 595.7	736.5	3 314.3	89.3	1 165.9	428.3	87	94

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2831, BIOLOGICAL PRODUCTS											
1977 Census--	13 430	(NA)	55	1 974	5.23	39	62	(NA)	35 994	37	32.56
1976 ASM----	13 753	21 900	56	2 027	5.02	37	62	39	34 269	40	30.10
1975 ASM----	12 261	24 932	53	1 986	4.74	38	62	50	32 022	38	30.00
1974 ASM----	11 304	20 369	50	1 957	4.36	39	67	51	26 000	43	26.18
1973 ASM----	10 870	18 916	53	1 913	4.02	41	71	52	23 425	46	22.79
1972 Census--	10 188	18 366	52	1 962	3.88	40	68	51	22 910	44	22.25
1971 ASM----	9 430	15 570	57	1 947	3.61	38	70	52	19 240	49	17.33
1970 ASM----	8 451	14 720	60	1 892	3.50	33	66	57	17 645	47	15.48
1969 ASM----	7 779	13 720	62	1 981	3.01	32	64	56	16 883	46	13.57
1968 ASM----	7 518	13 734	63	1 960	2.79	34	67	61	15 873	47	12.79
1967 Census--	7 270	13 202	64	1 937	2.69	35	68	61	14 756	49	11.74
1966 ASM----	7 071	(NA)	62	2 057	2.55	33	70	(NA)	14 071	50	10.94
1965 ASM----	6 865	(NA)	61	2 000	2.54	34	71	(NA)	12 423	55	10.09
1964 ASM----	6 339	12 142	60	1 941	2.43	34	70	69	11 285	56	9.57
1963 Census--	5 827	10 741	62	2 000	2.36	39	75	65	10 413	55	8.38
INDUSTRY 2833, MEDICINALS AND BOTANICALS											
1977 Census--	15 243	(NA)	58	2 030	7.44	39	50	(NA)	80 561	18	67.99
1976 ASM----	13 822	71 120	54	2 012	6.92	40	53	65	64 716	21	58.87
1975 ASM----	12 807	65 962	56	2 000	6.38	44	58	75	50 214	25	44.59
1974 ASM----	12 695	58 007	60	2 155	5.93	44	59	67	51 250	24	39.51
1973 ASM----	11 865	52 597	58	2 000	5.40	42	57	66	47 158	25	40.28
1972 Census--	10 358	51 987	58	1 891	5.16	49	65	79	33 333	31	29.88
1971 ASM----	9 728	40 622	57	1 969	4.77	51	70	81	25 350	38	22.57
1970 ASM----	9 504	43 416	66	2 149	4.25	49	66	80	28 554	33	20.02
1969 ASM----	8 866	32 377	67	1 967	4.07	44	60	58	30 288	29	22.71
1968 ASM----	8 402	31 690	66	2 034	3.82	47	63	60	28 816	29	21.24
1967 Census--	7 988	31 190	66	2 089	3.53	46	61	58	28 964	27	20.79
1966 ASM----	8 038	(NA)	63	2 151	3.12	49	64	(NA)	28 673	28	21.00
1965 ASM----	7 692	(NA)	61	2 156	3.04	50	65	(NA)	24 403	31	18.39
1964 ASM----	7 379	36 189	62	2 138	2.98	54	70	83	19 637	37	14.79
1963 Census--	7 320	25 086	65	2 094	3.02	50	70	66	18 679	39	13.63
INDUSTRY 2834, PHARMACEUTICAL PREPARATIONS											
1977 Census--	16 061	(NA)	49	1 950	6.33	29	47	(NA)	65 007	24	66.74
1976 ASM----	14 915	26 998	50	1 942	5.90	27	44	31	64 315	23	66.12
1975 ASM----	13 859	24 831	49	1 918	5.49	26	44	32	56 377	24	59.94
1974 ASM----	12 753	22 778	50	1 953	5.01	26	44	32	53 062	24	54.09
1973 ASM----	11 449	22 077	50	1 966	4.66	24	42	34	49 530	23	50.32
1972 Census--	10 979	22 719	50	1 985	4.39	22	39	35	50 352	21	49.81
1971 ASM----	10 330	21 377	50	1 993	4.03	21	40	37	44 313	23	44.00
1970 ASM----	10 167	19 870	53	2 008	3.81	21	40	37	41 805	24	39.01
1969 ASM----	9 246	17 244	54	1 981	3.53	21	39	33	41 232	22	38.08
1968 ASM----	8 491	16 342	53	1 987	3.34	20	38	33	38 877	21	36.45
1967 Census--	8 052	15 211	54	1 942	3.15	21	39	33	36 474	22	34.70
1966 ASM----	7 742	(NA)	54	2 013	3.03	22	40	(NA)	35 065	22	31.94
1965 ASM----	7 416	(NA)	54	1 986	2.93	22	39	(NA)	33 539	22	31.07
1964 ASM----	7 093	13 771	54	2 010	2.75	22	40	34	30 667	23	27.85
1963 Census--	6 822	13 700	53	1 997	2.68	22	39	35	30 501	22	28.30

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2831, BIOLOGICAL PRODUCTS														
United States	–	**310**	**113**	**15.7**	**210.2**	**8.8**	**17.3**	**90.5**	**563.4**	**350.6**	**898.5**	**35.4**	**10.1**	**231.4**
New England Division:														
Massachusetts	–	7	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Rhode Island	E1	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	–	17	9	0.8	10.3	0.5	1.0	5.8	34.9	17.8	51.5	1.6	BB	(D)
New Jersey	–	18	13	2.6	40.4	1.1	2.4	14.1	99.4	46.1	142.1	6.6	0.5	14.1
Pennsylvania	E1	15	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East North Central Division:														
Ohio	E2	13	3	0.2	2.1	0.1	0.2	0.9	5.6	3.2	8.8	0.3	(NA)	(NA)
Indiana	–	8	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Illinois	–	11	7	0.5	5.3	0.3	0.5	1.9	15.3	7.6	22.0	2.8	0.3	7.7
Michigan	–	10	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Wisconsin	–	6	4	0.2	1.7	0.1	0.2	0.9	4.4	3.2	7.7	(D)	(NA)	(NA)
West North Central Division:														
Missouri	–	7	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Nebraska	–	8	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Kansas	–	7	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Atlantic Division:														
Maryland	–	12	7	1.3	15.0	1.0	1.9	9.8	48.0	24.9	73.0	(D)	(NA)	(NA)
Virginia	E1	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	–	8	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	–	13	6	1.0	13.4	0.7	1.6	6.7	39.2	16.9	54.5	1.3	CC	(D)
West South Central Division:														
Texas	–	23	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Mountain Division:														
Colorado	–	8	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
California	–	40	14	2.7	41.4	1.4	2.9	14.8	65.4	100.2	168.1	3.1	FF	(D)
INDUSTRY 2833, MEDICINALS AND BOTANICALS														
United States	–	**177**	**76**	**14.4**	**219.9**	**8.4**	**17.1**	**127.2**	**1 162.2**	**739.0**	**1 889.9**	**123.8**	**7.8**	**260.0**
New England Division:														
Maine	–	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	–	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	–	21	8	0.8	12.6	0.5	1.0	7.2	46.5	39.6	84.1	2.9	CC	(D)
New Jersey	–	32	21	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Pennsylvania	–	8	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East North Central Division:														
Indiana	–	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	–	11	5	0.5	8.0	0.2	0.5	3.3	21.0	21.3	42.0	1.3	0.4	7.3
Wisconsin	–	3	3	0.2	2.9	0.1	0.2	1.2	8.9	10.0	17.7	(D)	AA	(D)
West North Central Division:														
Missouri	–	11	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Atlantic Division:														
Virginia	–	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	–	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	–	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	E1	27	8	0.5	6.5	0.3	0.6	3.6	22.7	24.8	47.2	1.3	AA	(D)
INDUSTRY 2834, PHARMACEUTICAL PREPARATIONS														
United States	–	**756**	**293**	**126.4**	**2 029.5**	**63.1**	**123.1**	**779.4**	**8 214.4**	**3 394.2**	**11 459.4**	**419.3**	**112.0**	**5 639.5**
New England Division:														
Massachusetts	E2	22	7	1.2	16.1	0.6	1.3	5.8	42.5	17.1	59.1	2.2	CC	(D)
Connecticut	–	16	6	1.0	13.2	0.5	0.9	4.7	44.3	23.2	68.3	0.6	EE	(D)
Middle Atlantic Division:														
New York	–	98	35	16.5	249.1	8.6	16.5	108.1	1 030.9	461.6	1 472.9	36.5	15.1	879.2
New Jersey	–	82	43	23.4	420.4	11.6	23.4	155.2	1 989.0	580.7	2 549.3	93.9	25.1	1 402.7
Pennsylvania	–	47	22	13.6	245.6	7.7	15.0	114.7	1 258.7	453.9	1 703.5	29.4	11.9	866.7
East North Central Division:														
Ohio	–	23	9	2.7	43.3	0.8	1.5	8.5	100.6	58.6	159.9	3.6	FF	(D)
Indiana	–	19	8	13.1	263.3	3.9	7.5	57.7	838.3	385.3	1 180.9	(D)	13.4	677.8
Illinois	–	60	26	14.5	229.0	5.3	10.7	66.5	719.9	206.2	920.4	44.1	11.3	411.0
Michigan	–	29	9	6.7	116.8	4.6	8.8	74.2	429.8	322.6	748.5	(D)	FF	(D)
Wisconsin	–	8	4	0.3	3.3	0.2	0.3	1.4	8.7	5.3	14.0	0.3	CC	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2834, PHARMACEUTICAL PREPARATIONS—Con.														
West North Central Division:														
Minnesota	-	11	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Iowa	-	14	4	0.9	12.4	0.4	0.8	4.9	32.8	21.9	53.5	(D)	BB	(D)
Missouri	-	30	11	2.9	39.5	1.3	2.5	13.2	193.7	80.2	272.0	(D)	2.3	123.1
Nebraska	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Kansas	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Delaware	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maryland	E1	17	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Virginia	-	12	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West Virginia	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
North Carolina	-	12	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Carolina	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Georgia	-	12	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Florida	E1	20	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
East South Central Division:														
Tennessee	-	13	6	2.8	37.3	1.4	3.1	14.1	160.5	58.3	212.3	4.2	3.3	111.2
Mississippi	-	6	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West South Central Division:														
Louisiana	-	7	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Texas	-	30	7	1.6	22.0	0.4	0.7	3.1	60.3	17.4	77.2	(D)	1.2	31.7
Mountain Division:														
Colorado	-	7	4	0.3	3.4	0.2	0.5	2.3	11.5	8.2	19.6	(D)	(NA)	(NA)
Arizona	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
Oregon	E2	8	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
California	-	96	39	8.5	121.3	4.2	8.6	46.2	392.6	264.9	649.5	40.5	5.8	190.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Biological products (SIC 2831)	Medicinals and botanicals (SIC 2833)	Pharmaceutical preparations (SIC 2834)
Primary product specialization ratio[1]	percent	93	82	86
Coverage ratio[2]	do	73	68	97
All establishments	number	310	177	756
With 1 to 19 employees	do	197	101	463
With 20 to 99 employees	do	74	53	135
With 100 employees or more	do	39	23	158
All employees, average for year	1,000	15.7	14.4	126.4
Payroll for year, all employees	mil. dol.	210.2	219.9	2 029.5
Production workers:				
Average for year	1,000	8.8	8.4	63.1
March	do	8.8	8.3	62.3
May	do	8.7	8.4	63.0
August	do	8.8	8.5	63.5
November	do	8.7	8.5	63.4
Hours	millions	17.3	17.1	123.1
January to March	do	4.2	4.2	30.8
April to June	do	4.5	4.3	31.4
July to September	do	4.3	4.3	30.2
October to December	do	4.4	4.3	30.7
Wages	mil. dol.	90.5	127.2	779.4
Cost of materials, etc.	do	350.6	739.0	3 394.2
Materials, parts, containers, etc., consumed	do	309.4	616.1	2 831.3
Resales	do	24.6	48.5	318.6
Fuels consumed	do	4.0	48.6	63.9
Purchased electric energy	do	9.8	23.5	79.4
Contract work	do	2.9	2.2	101.0
Value of shipments, including resales	do	898.5	1 889.9	11 459.4
Value of resales	do	45.4	63.4	544.6
Value added by manufacture	do	563.4	1 162.2	8 214.4
Manufacturers' inventories:				
Beginning of year	do	222.3	297.9	1 711.5
Finished products	do	57.1	110.6	667.8
Work in process	do	106.0	91.5	416.5
Materials, supplies, fuel, etc.	do	59.1	95.8	627.2
End of year	do	246.9	307.0	1 892.6
Finished products	do	59.0	109.3	740.4
Work in process	do	119.6	104.0	493.2
Materials, supplies, fuel, etc.	do	68.3	93.7	659.0
Capital expenditures for plant and equipment	do	35.6	125.1	424.1
New capital expenditures	do	35.4	123.8	419.3
New buildings and other structures	do	11.3	19.8	123.8
New machinery and equipment	do	24.2	104.0	295.5
Used capital expenditures	do	0.2	1.3	4.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. *n.e.c.* Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Biological products (SIC 2831)		Medicinals and botanicals (SIC 2833)		Pharmaceutical preparations (SIC 2834)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	2.1	5	6.1	2	19.6	5
Response coverage ratio[2] (percent)	71.0	(X)	73.1	(X)	84.4	(X)
Machinery	4.3	9	12.5	3	42.0	13
Response coverage ratio[2] (percent)	64.0	(X)	64.7	(X)	88.2	(X)
Cost of purchased communication services	5.8	8	3.3	10	30.6	11
Response coverage ratio[2] (percent)	67.0	(X)	69.8	(X)	87.4	(X)
Rental payments	6.7	5	(3.7)	23	66.8	12
Buildings and other structures	3.2	8	(2.0)	41	(21.2)	16
Machinery and equipment	3.5	6	1.7	9	(45.6)	17
Supplemental labor costs	41.9	2	41.9	2	374.9	1
Legal costs	20.4	1	13.8	4	133.4	1
Voluntary costs	21.5	4	28.1	2	241.5	1
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	145.1	4	237.5	4	1,548.1	2
New capital expenditures	(13.0)	28	17.3	7	125.3	3
Used capital expenditures	(0.1)	67	0.1	1	3.7	2
Retirements	1.6	9	3.2	5	16.6	8
End of year	156.6	3	251.7	4	1,660.5	1
Machinery and equipment:						
Beginning of year	158.0	4	815.7	2	1,850.9	1
New capital expenditures	27.9	13	99.7	4	293.1	1
Automobiles, trucks, etc., for highway use[3]	(1.7)	(A)	(0.6)	(A)	(7.6)	(A)
Computers and peripheral data processing equipment[3]	(0.9)	(A)	(1.4)	(A)	(9.5)	(A)
All other[3]	(17.4)	(A)	(93.8)	21	257.8	8
New machinery and equipment, n.s.k.[4]	(7.8)	(A)	(3.9)	(A)	(18.2)	(A)
Used capital expenditures	(0.3)	69	0.2	1	(1.9)	38
Retirements	4.2	4	18.3	3	68.5	9
End of year	182.0	3	897.3	2	2,077.3	1
Total gross value of depreciable assets:						
Beginning of year	303.1	4	1,053.1	2	3,398.9	1
New capital expenditures	(40.9)	18	117.0	5	418.4	1
Used capital expenditures	(0.3)	54	0.3	1	5.6	13
Retirements	5.8	4	21.4	4	85.1	6
End of year	338.5	3	1,148.9	2	3,737.8	1
Depreciation charges during 1977	21.4	3	62.9	4	202.8	4
Buildings and other structures	7.8	2	8.7	4	60.0	2
Machinery and equipment	13.6	3	54.2	4	142.8	4

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2831, BIOLOGICAL PRODUCTS												
Total	**-**	**310**	**15.7**	**210.2**	**8.8**	**17.3**	**90.5**	**563.4**	**350.6**	**898.5**	**35.4**	**246.9**
Establishments with an average of—												
1 to 4 employees	E6	108	0.2	2.3	0.1	0.2	1.0	6.5	3.4	10.2	0.3	2.4
5 to 9 employees	E4	51	0.4	4.6	0.2	0.4	2.1	13.7	8.3	23.2	1.6	3.9
10 to 19 employees	E3	38	0.5	6.7	0.3	0.6	2.9	17.2	8.3	25.3	1.1	5.5
20 to 49 employees	-	49	1.5	16.9	0.9	1.7	8.4	51.4	24.1	74.4	3.1	14.4
50 to 99 employees	-	25	1.8	21.6	1.1	2.1	10.1	37.9	37.8	96.7	4.0	21.8
100 to 249 employees	-	24	3.8	48.7	2.3	4.4	22.9	168.8	103.1	262.2	11.6	69.6
250 to 499 employees	-	10	3.6	52.0	2.2	4.5	24.4	163.5	107.3	246.2	9.0	69.2
500 to 999 employees	-	3	(3.9)	(57.5)	(1.7)	(3.3)	(18.7)	(104.3)	(58.3)	(160.3)	(4.8)	(60.3)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	119	0.5	6.7	0.3	0.6	2.9	15.4	8.9	24.3	0.7	6.2
INDUSTRY 2833, MEDICINALS AND BOTANICALS												
Total	**-**	**177**	**14.4**	**219.9**	**8.4**	**17.1**	**127.2**	**1 162.2**	**739.0**	**1 889.9**	**123.8**	**307.0**
Establishments with an average of—												
1 to 4 employees	E5	42	0.1	1.1	0.1	0.1	0.6	4.7	2.9	7.6	0.4	1.1
5 to 9 employees	E5	24	0.2	2.2	0.1	0.2	1.2	8.4	7.6	15.8	0.8	2.4
10 to 19 employees	E1	35	0.5	7.0	0.3	0.6	4.0	52.9	39.3	91.8	2.6	12.1
20 to 49 employees	-	37	1.1	14.8	0.7	1.3	7.8	60.5	99.4	158.9	10.9	26.7
50 to 99 employees	-	16	1.2	15.5	0.9	1.7	8.9	71.3	72.7	140.2	6.0	21.3
100 to 249 employees	-	12	1.9	30.4	1.0	2.1	14.2	117.9	93.0	202.5	11.8	47.6
250 to 499 employees	-	5	(9.4)	(148.9)	(5.3)	(11.1)	(90.5)	(846.5)	(424.1)	(1 273.1)	(91.3)	(195.8)
500 to 999 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	55	0.3	4.5	0.2	0.4	2.5	18.0	11.4	29.4	2.0	5.0
INDUSTRY 2834, PHARMACEUTICAL PREPARATIONS												
Total	**-**	**756**	**126.4**	**2 029.5**	**63.1**	**123.1**	**779.4**	**8 214.4**	**3 394.2**	**11 459.4**	**419.3**	**1 892.6**
Establishments with an average of—												
1 to 4 employees	E8	299	0.4	6.3	0.3	0.4	2.5	14.9	10.3	33.1	0.9	5.2
5 to 9 employees	E7	85	0.6	8.2	0.3	0.6	3.2	30.0	12.8	42.8	1.3	7.5
10 to 19 employees	E6	79	1.1	14.9	0.6	1.1	6.0	56.7	28.1	84.2	2.0	15.2
20 to 49 employees	E1	82	2.7	32.1	1.6	3.2	14.1	136.3	73.0	206.6	5.5	34.7
50 to 99 employees	-	53	3.7	43.0	2.0	4.0	17.3	199.7	136.7	337.1	8.6	58.3
100 to 249 employees	-	54	8.8	105.8	5.4	10.8	51.6	356.3	286.5	644.9	19.6	128.9
250 to 499 employees	-	46	15.4	200.8	9.5	18.7	105.8	1 210.9	537.1	1 729.9	54.2	251.4
500 to 999 employees	-	27	20.1	297.5	10.6	21.0	128.2	1 599.1	542.7	2 101.3	81.4	328.4
1,000 to 2,499 employees	-	22	33.6	561.2	16.3	32.2	216.6	2 399.3	871.3	3 218.0	125.7	480.2
2,500 employees or more	-	9	40.0	759.7	16.5	31.0	234.0	2 211.3	895.6	3 061.3	120.1	582.8
Covered by administrative records[2]	E0	348	1.4	20.9	0.7	1.4	8.2	78.3	29.8	108.1	2.8	17.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2831	**Biological products:**										
	Entire industry	310	15.7	210.2	8.8	17.3	90.5	563.4	350.6	898.5	35.4
	Establishments with 75 percent specialization or more	294	13.0	174.2	7.8	15.4	79.5	469.9	294.3	749.3	(D)
28311	Blood and blood derivatives, for human use:										
	Establishments with this product class primary	15	2.6	38.4	1.6	3.4	16.7	91.6	121.0	206.0	4.4
	Establishments with 75 percent specialization or more in class	13	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28312	Vaccines, toxoids, and antigens, for human use:										
	Establishments with this product class primary	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28313	Antitoxins, antivenins, and similar derivatives, human use:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28314	Diagnostic substances, and other biologics, except those: for industrial use:										
	Establishments with this product class primary	54	7.9	106.2	4.0	7.9	42.6	298.1	132.2	423.0	16.3
	Establishments with 75 percent specialization or more in class	46	4.8	61.8	3.0	6.0	30.6	199.9	81.6	276.4	(D)
28315	Biological products for veterinary use:										
	Establishments with this product class primary	30	2.0	23.0	1.3	2.5	11.9	79.2	37.8	118.6	4.8
	Establishments with 75 percent specialization or more in class	26	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28316	Biological products for industrial and other uses:										
	Establishments with this product class primary	16	0.8	11.1	0.4	0.6	3.1	21.8	16.2	36.7	1.4
	Establishments with 75 percent specialization or more in class	15	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2833	**Medicinals and botanicals:**										
	Entire industry	177	14.4	219.9	8.4	17.1	127.2	1 162.2	739.0	1 889.9	123.8
	Establishments with 75 percent specialization or more	160	7.7	130.0	4.7	9.8	72.9	781.4	471.4	1 245.5	(D)
28331	Synthetic organic medicinal chemicals, in bulk:										
	Establishments with this product class primary	40	9.0	148.1	5.5	11.7	91.1	934.8	494.5	1 426.5	100.3
	Establishments with 75 percent specialization or more in class	29	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28332	Other medicinal chemical and botanical products, in bulk:										
	Establishments with this product class primary	44	4.3	57.1	2.2	4.0	28.2	171.0	202.8	366.2	16.3
	Establishments with 75 percent specialization or more in class	34	1.4	20.3	0.8	1.6	9.9	60.3	74.3	129.0	8.5
2834	**Pharmaceutical preparations:**										
	Entire industry	756	126.4	2 029.5	63.1	123.1	779.4	8 214.4	3 394.2	11 459.4	419.3
	Establishments with 75 percent specialization or more	683	96.6	1 591.2	48.2	94.1	603.0	6 500.7	2 723.8	9 093.4	318.8
28341	Pharmaceutical preparations acting on neoplasms, endocrine: system, and metabolic diseases, for human use:										
	Establishments with this product class primary	15	10.8	184.1	7.1	14.1	106.0	941.9	475.5	1 395.8	49.3
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28342	Pharmaceutical preparations acting on central nervous: system and sense organs, for human use:										
	Establishments with this product class primary	44	26.0	453.8	13.0	25.3	170.8	2 330.5	672.4	3 009.1	77.1
	Establishments with 75 percent specialization or more in class	12	4.0	62.1	1.9	3.8	21.8	289.6	99.8	389.2	10.9
28343	Pharmaceutical preparations acting on cardiovascular: system, for human use:										
	Establishments with this product class primary	9	3.5	62.1	1.2	2.3	14.0	336.9	89.8	421.2	12.6
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28344	Pharmaceutical preparations acting on respiratory system,: for human use:										
	Establishments with this product class primary	28	12.2	220.4	5.3	10.4	72.0	804.4	284.2	1 065.6	40.5
	Establishments with 75 percent specialization or more in class	7	1.0	11.8	0.7	1.4	6.6	106.6	32.1	138.4	2.0
28345	Pharmaceutical preparations acting on digestive or genito-urinary systems, for human use:										
	Establishments with this product class primary	40	16.9	266.8	6.3	12.0	70.4	893.2	311.7	1 193.4	44.2
	Establishments with 75 percent specialization or more in class	13	3.2	49.2	1.4	2.6	18.1	262.9	69.3	329.4	6.0
28346	Pharmaceutical preparation acting on the skin, for human use:										
	Establishments with this product class primary	39	4.3	51.9	2.4	4.9	19.8	233.5	125.4	357.9	19.4
	Establishments with 75 percent specialization or more in class	20	1.8	25.6	0.9	1.8	9.4	81.9	42.7	125.1	(D)
28347	Vitamin, nutrient, and hematinic preparations, for human use:										
	Establishments with this product class primary	71	28.7	373.4	15.8	30.0	163.0	1 162.1	625.3	1 748.7	96.0
	Establishments with 75 percent specialization or more in class	40	9.6	110.8	7.3	13.5	72.2	356.2	323.3	662.3	(D)
28348	Pharmaceutical preparation acting on parasitic and infective: diseases, for human use:										
	Establishments with this product class primary	20	18.2	339.0	9.2	18.1	132.9	1 246.5	641.9	1 829.8	67.4
	Establishments with 75 percent specialization or more in class	9	1.7	21.4	1.0	1.9	11.2	55.9	52.1	101.5	(D)
28349	Pharmaceutical preparations for veterinary use:										
	Establishments with this product class primary	23	2.7	37.6	1.4	2.7	14.2	129.2	104.3	233.4	7.0
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product† specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2831	Biological products.....1977..	898.5	780.9	61.0	56.6	93	1,067.5	780.9	286.6	73
	1972..	360.0	297.1	42.9	20.0	87	495.2	297.1	198.1	60
	1967..	160.0	134.4	14.6	11.1	90	220.6	134.4	86.2	61
2833	Medicinals and botanicals.....1977..	1,889.9	1,499.4	320.9	69.6	82	2,205.9	1,499.4	706.5	68
	1972..	509.0	401.8	62.3	44.9	87	793.5	401.8	391.7	51
	1967..	445.2	329.7	89.6	25.9	71	593.8	329.7	264.1	56
2834	Pharmaceutical preparations.....1977..	11,459.4	9,363.1	1,509.1	587.2	86	9,639.5	9,363.1	276.4	97
	1972..	7,149.5	6,085.7	882.4	181.4	87	6,295.4	6,085.7	209.7	97
	1967..	4,696.4	3,994.3	601.1	101.0	87	4,139.7	3,994.3	145.4	97

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Biological products (SIC 2831)	Medicinals and botanicals (SIC 2833)	Pharmaceutical preparations (SIC 2834)	Other industries
	Total	(X)	898.5	1,889.9	11,459.4	(X)
	Primary products	(X)	780.9	1,499.4	9,363.1	(X)
	Secondary products	(X)	61.0	320.9	1,509.1	(X)
	Miscellaneous receipts	(X)	56.6	69.6	587.2	(X)
2831-	Biological products	1,067.5	780.9	(D)	243.7	(D)
28311	Blood and blood derivatives, for human use	243.1	(D)	-	(D)	(D)
28312	Vaccines, toxoids, and antigens, for human use	99.4	18.1	-	81.3	-
28313	Antitoxins, antivenins, similar derivatives, human use	26.6	(D)	-	(D)	-
28314	Diagnostic substances, other biologics, except those for industrial use	448.9	343.3	(D)	(D)	(D)
28315	Biological products for veterinary use	121.1	(D)	(D)	(D)	-
28316	Biological products for industrial and other uses	46.6	(D)	(D)	(D)	(D)
28310	Biological products, n.s.k	81.8	81.6	-	-	.2
2833-	Medicinals and botanicals	2,205.9	10.4	1,499.4	384.1	312.0
28331	Synthetic organic medicinal chemicals, in bulk	1,787.8	4.7	1,141.7	357.2	284.2
28332	Other medicinal chemicals and botanical products	313.7	(D)	254.8	26.8	(D)
28330	Medicinals and botanicals, n.s.k	104.4	(D)	102.9	.1	(D)
2834-	Pharmaceutical preparations	9,639.5	20.0	64.0	9,363.1	192.4
28341	Pharmaceutical preparations--neoplasm, endocrine, metabolic, human use	905.3	-	(D)	895.1	(D)
28342	Pharmaceutical preparations--nervous system, sense organs, human use	2,254.4	-	(D)	2,212.7	(D)
28343	Pharmaceutical preparations--cardiovascular system, human use	748.4	(D)	(D)	743.6	(D)
28344	Pharmaceutical preparations--respiratory system, human use	871.4	-	(D)	850.7	(D)
28345	Pharmaceutical preparations--digestive, urinary system, human use	1,080.3	(D)	(D)	1,051.8	25.8
28346	Pharmaceutical preparations--acting on the skin, human use	613.1	(D)	-	547.1	(D)
28347	Vitamin, nutrient, hematinic preparations, human use	1,315.4	-	(D)	1,298.0	(D)
28348	Pharmaceutical preparations--parasitic, infective diseases, human use	1,292.6	(D)	(D)	1,279.6	11.6
28349	Pharmaceutical preparations for veterinary use	353.3	(D)	44.8	283.6	(D)
28340	Pharmaceutical preparations, n.s.k	205.3	(D)	2.4	200.9	(D)
	Other shipments by 4-digit product group:					
2048-	Prepared feeds, n.e.c	(X)	-	(D)	(D)	(X)
2065-	Confectionery products	(X)	-	-	(D)	(X)
2067-	Chewing gum	(X)	-	-	(D)	(X)
2099-	Food preparations, n.e.c	(X)	-	-	(D)	(X)
2647-	Sanitary paper products	(X)	-	-	(D)	(X)
2741-	Miscellaneous publishing	(X)	-	-	(D)	(X)
2819-	Industrial inorganic chemicals, n.e.c	(X)	-	(D)	(D)	(X)
2842-	Polishes and sanitation goods	(X)	-	-	(D)	(X)
2843-	Surface active agents	(X)	-	(D)	-	(X)
2844-	Toilet preparations	(X)	-	(D)	(D)	(X)
2865-	Cyclic crudes and intermediates	(X)	-	(D)	(D)	(X)
2869-	Industrial organic chemicals, n.e.c	(X)	-	(D)	(D)	(X)
2873-	Nitrogenous fertilizers	(X)	-	-	(D)	(X)
2879-	Agricultural chemicals, n.e.c	(X)	(D)	(D)	(D)	(X)
2899-	Chemical preparations, n.e.c	(X)	-	-	(D)	(X)
2999-	Petroleum and coal products, n.e.c	(X)	-	(D)	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	-	(D)	(X)
3229-	Pressed and blown glass, n.e.c	(X)	-	-	-	(X)
3231-	Products of purchased glass	(X)	-	-	-	(X)
3693-	X-ray and electromedical apparatus	(X)	(D)	-	(D)	(X)
3811-	Engineering and scientific instruments	(X)	-	-	(D)	(X)
3841-	Surgical and medical instruments	(X)	(D)	-	(D)	(X)
3842-	Surgical appliances and supplies	(X)	(D)	-	(D)	(X)
3952-	Lead pencils and art goods	(X)	-	-	(D)	(X)
	Miscellaneous receipts:					
93000 00	Contract work	(X)	8.4	5.8	23.3	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(D)	2.7	(X)
99980 41	Receipts for research and developmental work	(X)	(D)	(D)	(D)	(X)
99980 98	Other miscellaneous receipts, including receipts for repair work, etc	(X)	(D)	(D)	(D)	(X)
99989 00	Resales	(X)	45.4	63.4	544.6	(X)

See footnotes at end of table.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
2831-	2844 Toilet preparations	(D)	2834-	2023 Condensed and evaporated milk	(D)
	3079 Miscellaneous plastics products	(D)		2048 Prepared feeds, n.e.c	(D)
				2065 Confectionery products	(D)
2833-	2095 Roasted coffee	(D)		2841 Soap and other detergents	(D)
	2821 Plastics materials and resins	(D)			
	2865 Cyclic crudes and intermediates	(D)		2842 Polishes and sanitation goods	(D)
	2869 Industrial organic chemicals, n.e.c	(D)		2844 Toilet preparations	(D)
	2873 Nitrogenous fertilizers	(D)		2899 Chemical preparations, n.e.c	(D)
	2879 Agricultural chemicals, n.e.c	(D)		3842 Surgical appliances and supplies	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	BIOLOGICAL PRODUCTS			
2831- --	Total	(NA)	1,067.5	495.2
	Biological products for human use	(NA)	818.0	407.3
28311 --	Blood and blood derivatives, for human use	(NA)	243.1	125.9
28311 13	Whole human blood	2	(D)	
28311 15	Human blood plasma	5	12.8	
28311 17	Normal human blood serum, whether or not freeze dried	3	(D)	125.9
28311 19	Other blood derivatives or fractions, except those used for passive immunization	8	196.8	
28311 00	Blood and blood derivatives, for human use, n.s.k.	(NA)	.3	
28312 --	Vaccines, toxoids, and antigens, for human use:			
28312 15	Vaccines toxoids, and other antigens (except allergens) for active immunization.	10	99.4	
28313 --	Antitoxins, antivenins, and similar blood derivatives for therapeutic and passive immunizations, for human use:			88.8
28313 15	Antitoxins, antivenins, immune globulins, therapeutic immune serums, and similar blood derivatives for therapeutic use and passive immunization	11	26.6	
28314 --	Diagnostic substances and other biologics, except for industrial use	(NA)	448.9	[2]192.5
28314 13	Allergenic extracts, including poison ivy and poison oak extracts, and allergens	5	8.8	
28314 15	Diagnostic substances, except diagnostic allergens	36	342.5	[2]192.5
28314 19	Other biologics for human use	15	91.6	
28314 00	Diagnostic substances and other biologics, except for industrial use, n.s.k.	(NA)	6.0	
28315 --	Biological products for veterinary use	(NA)	121.1	[2]74.1
28315 17	Vaccines, bacterins, toxoids, and other antigens (except allergens) for active immunization	21	82.4	
28315 41	Blood and blood derivatives, except diagnostics and immune serums	4	1.7	[2]72.5
28315 98	Other biologics, including antitoxins, immune serums, diagnostics and allergens	13	35.1	
28315 00	Biological products for veterinary use, n.s.k.	(NA)	1.9	[2]1.6
28316 --	Biological products for industrial and other uses:			
28316 11	Biological products for industrial and other uses	24	46.6	([2])
28310 00	Biological products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	57.5	13.8
28310 02	Biological products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	24.3	
	MEDICINALS AND BOTANICALS			
2833- --	Total	(NA)	2,205.9	793.5
28331 --	Synthetic organic medicinal chemicals, in bulk[3]	(NA)	1,787.8	635.6
28331 10	Antibiotics, including all such uses as veterinary, food supplements, food preservation, crop spraying, etc., but excluding antibiotic preparations	26	645.1	238.9
28331 20	Other synthetic organic medicinal chemicals, except antibiotics	49	1,140.2	392.9
28331 00	Synthetic organic medicinal chemicals, in bulk, n.s.k.	(NA)	2.5	3.8
28332 --	Other medicinal chemicals and botanical products, in bulk, n.e.c., including human and veterinary use	(NA)	313.7	144.0
	Botanical drugs:			
28332 15	Alkaloids, including opium and nicotine	7	78.2	
28332 17	Glycosides, including digitalis, rutin, and hesperidin	2	.6	16.4
28332 19	Ginseng extract and other advanced botanical drugs	6	(D)	
	Naturally occurring vitamins:			
28332 23	Vitamin C	7	7.1	33.6
28332 25	Other naturally occurring vitamins (from yeast, fish, liver, etc.)	17	33.0	
	Drugs of animal origin:			
28332 43	Hormones	7	8.0	6.1
28332 45	Other drugs of animal origin, including dried glands, organs, and tissue, and extractions thereof	11	31.3	
28332 81	Other inorganic medicinal chemicals	5	(D)	23.1
	Artificial mixtures of two or more substances for therapeutic or prophylactic uses:			
28332 91	Containing one or more antibiotic	5	9.0	
28332 93	Containing vitamins, but no antibiotics	13	46.1	63.2
28332 95	Other	5	4.6	
28332 97	Other organic medicinal chemicals	11	41.1	
28332 00	Other medicinal chemicals and botanical products, in bulk, n.e.c., n.s.k.	(NA)	11.0	1.6
28330 00	Medicinal chemical and botanical products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	75.0	11.4
28330 02	Medicinal chemical and botanical products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	29.4	2.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Number of companies with shipments of $100,000 or more	1977 value of product shipments[1] (million dollars)					1972 value of product shipments[8] (million dollars)
			Total	Prescription legend[4]	Over-the-counter professional[5]	Proprietary[6]	Bulk[7]	
	PHARMACEUTICAL PREPARATIONS							
2834- --	As reported in census of manufactures....	(NA)	9,639.5	(X)	(X)	(X)	(X)	6,295.4
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals.....	(NA)	[9]9,617.4	[9]6,024.9	[9]831.2	[9]2,315.7	204.3	6,052.9
28341 --	Pharmaceutical preparations affecting neoplasms, the endocrine system, and metabolic diseases, for human use:							
	As reported in census of manufactures.....	59	905.3	(X)	(X)	(X)	(X)	615.4
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals.....	(NA)	899.5	[10]879.5	([10])	(X)	20.0	615.0
	Hormones and synthetic substitutes, total....	(NA)	711.5	[10]695.8	([10])	(X)	15.7	550.7
28341 11	Corticoids: Systemic.....	(NA)	125.6	(g)	-	(X)	(c)	94.0
28341 15	Local and topical, including anti-infective combinations.....	(NA)	157.8	(g)	-	(X)	(b)	91.7
28341 17	Androgens.....	(NA)	10.4	10.4	-	(X)	-	9.3
28341 19	Estrogens.....	(NA)	67.8	(g)	-	(X)	(a)	65.2
28341 21	Insulin and antidiabetic agents.....	(NA)	158.7	[10](g)	([10])	(X)	(e)	132.7
28341 25	ACTH.....	(NA)	4.4	(d)	-	(X)	(b)	4.6
	Progestogens, excluding premenstrual tension preparations (see code 38345 85):							
28341 27	Oral contraceptive preparations.....	(NA)	126.8	(g)	-	(X)	(a)	110.8
28341 29	Other.....	(NA)	11.8	11.8	-	(X)	-	9.6
28341 31	Sex hormone combinations, except progestogen combinations.....	(NA)	6.6	6.6	-	(X)	-	([11])
28341 35	Thyroid and antithyroid preparations, including iodides.....	(NA)	16.6	(f)	-	(X)	(a)	16.6
28341 37	Anabolic agents.....	(NA)	7.1	(e)	-	(X)	(a)	4.0
28341 39	Other hormone preparations.....	(NA)	17.8	(f)	-	(X)	(e)	[11]12.2
	Antineoplastic agents:							
28341 43	Radioactive isotopes for internal use.....	(NA)	123.7	(g)	-	(X)	(a)	47.3
28341 45	Specific antineoplastic agents.....	(NA)						
28341 98	Other pharmaceutical preparations affecting neoplasms, the endocrine system, and metabolic diseases.....	(NA)	63.3	(g)	-	(X)	(d)	16.5
28341 00	Pharmaceutical prepaations affecting neoplasms, the endocrine system, and metabolic diseases, for human use, n.s.k...	(NA)	1.0	1.0	-	(X)	(X)	.5
28342 --	Pharmaceutical preparations acting on the central nervous system and the sense organs, for human use:							
	As reported in census of manufactures.....	107	2,254.4	(X)	(X)	(X)	(X)	1,638.1
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals.....	(NA)	2,230.6	1,623.0	52.3	537.9	17.4	1,635.6
28342 11	Parasympathomimetic agents, except miotics and mydriatics.....	(NA)	([12])	([12])	([12])	(X)	([12])	([12])
28342 13	Skeletal muscle relaxants.....	(NA)	50.9	(g)	-	(X)	(a)	31.5
	Internal analgesics and antipyretics:							
28342 21	Narcotic.....	(NA)	171.7	(g)	-	(X)	(a)	92.3
	Nonnarcotic:							
28342 23	Salicylates, including acetylsalicylic acid.....	(NA)	105.1	(b)	2.9	101.1	(a)	97.4
28342 25	Aspirin combinations.....	(NA)	286.2	42.1	(g)	216.5	(e)	209.6
28342 27	Anti-arthritics (nonhormonal).....	(NA)	134.7	133.6	(c)	(a)	(a)	93.4
28342 29	Other internal analgesics and antipyretics, including effervescent types and suppositories.....	(NA)	220.1	94.5	(d)	(g)	(a)	174.7
28342 41	Anticonvulsants, except phenobarbital.....	(NA)	48.2	(g)	-	-	(a)	([13])
	Psychotherapeutic agents:							
28342 51	Antidepressants.....	(NA)	104.2	(g)	-	(X)	(a)	67.0
	Tranquilizers:							
28342 55	Phenothiazine derivatives.....	(NA)	106.1	(g)	-	(X)	(d)	121.7
28342 57	Other tranquilizers.....	(NA)	544.1	542.4	(a)	(X)	(c)	405.3
28342 59	Other psychotherapeutic agents.....	(NA)						
	Central nervous system (CNS) stimulants, respiratory and cerebral stimulants, including sympathomimetic agents employed mainly as CNS stimulants, but excluding nondrug dietaries for weight control:							
28342 61	Amphetamines.....	(NA)	20.4	(g)	-	(X)	(a)	31.7
28342 63	Anorexiants, except amphetamines.....	(NA)	48.6	30.4	(a)	(f)	(a)	37.7
28342 69	Other CNS stimulants.....	(NA)	7.4	7.0	(a)	.3	(a)	3.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Number of companies with shipments of $100,000 or more	1977 value of product shipments[1] (million dollars)					1972 value of product shipments[8] (million dollars)
			Total	Prescription legend[4]	Over-the-counter professional[5]	Proprietary[6]	Bulk[7]	
2834- --	PHARMACEUTICAL PREPARATIONS--Con.							
28342 --	Pharmaceutical preparations acting on the central nervous system and the sense organs, for human use--Con.							
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals--Con.							
	Sedatives and hypnotics:							
	Ethical:							
28342 71	Barbiturates	(NA)	19.0	(f)	-	(X)	(a)	23.8
28342 75	Nonbarbiturates	(NA)	49.5	(g)	-	(X)	(a)	38.7
	Proprietary preparations:							
28342 77	Sleep inducers	(NA)	23.2	(X)	(X)	23.2	-	18.8
28342 79	Calming agents	(NA)	5.0	(X)	(X)	(e)	(a)	3.8
	Anesthetics, except urinary tract anesthetics and skin preparations used as antipruritics:							
28342 81	Local and topical	(NA)	55.4	54.9	(a)	(a)	-	19.0
28342 85	General	(NA)	32.7	29.1	-	(c)	(c)	39.2
	Eye and ear preparations, excluding anti-infectives, corticoids, and antibacterials and antiseptives:							
28342 91	Mydriatics and miotics	(NA)	25.0	22.5	(c)	(a)	-	15.1
28342 95	Other eye and ear preparations, including contact lens solutions	(NA)	77.7	19.1	(g)	(g)	-	44.2
28342 98	Other pharmaceutical preparations acting on the central nervous system and the sense organs	(NA)	[12]93.6	[12]79.5	([12])	12.6	[12](c)	[12] [13]65.0
28342 00	Pharmaceutical preparations acting on the central nervous system and the sense organs, for human use, n.s.k.	(NA)	1.7	1.3	(a)	(a)	(X)	2.3
28343 --	Pharmaceutical preparations acting on the cardiovascular system, for human use:							
	As reported in census of manufactures	62	748.4	(X)	(X)	(X)	(X)	383.1
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals	(NA)	750.7	745.1	-	(X)	5.6	399.6
28343 11	Anticoagulants	(NA)	34.8	34.8	-	(X)	-	17.3
28343 21	Hemostatics	(NA)	12.3	12.3	-	(X)	-	7.4
28343 31	Digitalis preparations	(NA)	10.5	(f)	-	(X)	(a)	7.9
	Hypotensives, total	(NA)	334.5	(g)	-	(X)	(a)	175.8
28343 41	Rauwolfia-diuretic combinations	(NA)	87.7	87.7	-	(X)	-	69.4
28343 45	Rauwolfia	(NA)	246.7	(g)	-	(X)	(a)	11.0
28343 49	Other hypotensives	(NA)						95.0
	Vasodilators:							
28343 51	Coronary	(NA)	84.1	(g)	-	(X)	(d)	79.5
28343 55	Peripheral	(NA)	72.3	(g)	-	(X)	(a)	45.8
28343 98	Other pharmaceutical preparations acting on the cardiovascular system, including vasopressors, antiarrhythmics, and antiheparin agents	(NA)	200.9	(g)	-	(X)	(b)	65.1
28343 00	Pharmaceutical preparations acting on the cardiovascular system, for human use, n.s.k.	(NA)	1.3	1.3	-	(X)	(X)	.8
28344 --	Pharmaceutical preparations acting on the respiratory system, for human use:							
	As reported in census of manufactures	77	871.4	(X)	(X)	(X)	(X)	579.9
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals	(NA)	895.7	375.4	101.4	411.8	7.1	561.4
28344 11	Antihistamines, except cold preparations and anti-emetics	(NA)	52.0	41.7	(a)	(e)	(b)	42.7
28344 15	Bronchial dilators, including antiasthmatics.	(NA)	187.8	137.9	26.3	(g)	(c)	73.8
	Cough preparations and expectorants (containing antitussive or other ingredient intended primarily to treat cough only):							
	Ethical preparations:							
28344 21	Narcotic	(NA)	56.7	44.6	12.1	(X)	-	32.5
28344 25	Nonnarcotic	(NA)	40.5	(f)	(g)	(X)	-	28.8
	Cold preparations, containing combinations of the following ingredients (but no antitussive): nasal decongestant, antihistamine, analgesic, bioflavanoid, or antibiotic:							
	Ethical preparations, total	(NA)	138.9	(g)	(g)	(X)	(a)	99.1
28344 31	Nasal decongestants	(NA)	83.8	57.7	(g)	(X)	(a)	71.6
28344 35	Antihistamine cold preparations	(NA)	55.1	(g)	4.1	(X)	(a)	16.3
28344 39	Other ethical cold preparations	(NA)						11.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Number of companies with shipments of $100,000 or more	1977 value of product shipments[1] (million dollars)					1972 value of product shipments[8] (million dollars)
			Total	Prescription legend[4]	Over-the-counter professional[5]	Proprietary[6]	Bulk[7]	
2834- --	PHARMACEUTICAL PREPARATIONS--Con.							
28344 --	Pharmaceutical preparations acting on the respiratory system, for human use--Con. As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals--Con.							
28344 41	Cough and cold combinations (ethical)	(NA)	12.5	11.0	1.5	(X)	-	9.1
	Cough and cold preparations (proprietary), total	(NA)	378.9	(X)	(X)	374.3	4.6	263.0
	Decongestants, including corticoid decongestants:							
28344 51	Nasal sprays	(NA)	51.4	(X)	(X)	(g)	(d)	34.2
28344 55	Nose drops	(NA)	2.0	(X)	(X)	2.0	-	1.7
28344 59	Other decongestants	(NA)	11.5	(X)	(X)	(f)	(a)	9.2
28344 61	Cough sirups	(NA)	88.9	(X)	(X)	88.9	-	65.5
28344 63	Capsules and tablets	(NA)	99.6	(X)	(X)	(g)	(c)	71.0
28344 65	Lozenges	(NA)	25.9	(X)	(X)	(g)	(a)	([14])
28344 67	Topical preparations	(NA)						.3
28344 71	Cough drops[15]	(NA)	99.6	(X)	(X)	(g)	(b)	([14])
28344 79	Other proprietary cough and cold preparations	(NA)						[14]81.1
28344 98	Other pharmaceutical preparations acting on the respiratory system	(NA)						
28344 00	Pharmaceutical preparations acting on the respiratory system, for human use, n.s.k.	(NA)	28.3	20.4	(c)	5.8	(a)	12.2
28345 --	Pharmaceutical preparations, acting on the digestive or genito-urinary systems, for human use:							
	As reported in census of manufactures	109	1,080.3	(X)	(X)	(X)	(X)	764.0
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals	(NA)	1,074.1	489.9	235.6	336.1	12.4	746.1
	Digestive system preparations:							
28345 11	Enzymes	(NA)	18.6	15.5	(c)	(a)	(b)	12.7
28345 15	Antacids, including acid neutralizing products with coating functions, but excluding effervescent salicylate products classified as analgesics	(NA)	300.3	(g)	157.1	114.5	(e)	181.5
28345 19	Antidiarrheals	(NA)	61.7	(e)	8.3	(g)	(a)	42.5
	Laxatives:							
28345 21	Irritants	(NA)	42.0	(c)	13.5	26.0	(a)	41.3
28345 23	Bulk producing	(NA)	91.7	(d)	22.9	62.1	(c)	25.9
28345 25	Fecal softeners	(NA)						43.4
28345 27	Emollients	(NA)	6.4	-	.8	5.6	-	5.1
28345 28	Saline	(NA)	21.9	-	7.0	14.9	-	15.3
28345 29	Enema specialties	(NA)						
28345 31	Digestants	(NA)	9.1	2.0	6.9	(a)	(a)	3.8
28345 33	Bile therapy preparations, including bile products, choleretics, and cholagogues	(NA)	7.0	2.7	(d)	(a)	(a)	5.7
28345 35	Antinauseants-motion sickness remedies (antiemetics), including antihistaminic antiemetic preparations	(NA)	27.2	24.5	(c)	(a)	(a)	33.7
28345 37	Lipotropics and cholesterol reducers	(NA)	7.8	7.1	(b)	(a)	(a)	5.9
	Antispasmodics and anticholinergics, total	(NA)	105.9	(g)	-	(X)	(a)	77.8
28345 41	Synthetics	(NA)	22.2	(g)	-	(X)	(a)	16.1
28345 43	Ataractic combinations	(NA)	49.6	49.6	-	(X)	-	37.2
28345 45	Belladonna and derivatives	(NA)	21.1	21.1	-	(X)	-	16.8
28345 49	Other antispasmodics and anticholinergics	(NA)	13.0	(f)	-	(X)	(a)	7.7
28345 59	Other digestive system preparations, including emetics	(NA)	4.4	3.2	(b)	(a)	-	3.6
	Genito-urinary preparations:							
28345 61	Urinary antibacterials and antiseptics	(NA)	36.2	36.1	(a)	(a)	(a)	44.8
	Diuretics, excluding aminophylline, xanthine, and rauwolfia-diuretic combinations (see cardiovascular preparations):							
28345 71	Thiazides and related agents	(NA)	214.5	214.0	(a)	(a)	(a)	80.8
28345 73	Other diuretics	(NA)						58.7
28345 81	Oxytocics	(NA)	5.1	5.1	-	-	-	3.7
28345 83	Contraceptive agents, except oral contraceptives (aerosols, gels, and creams)	(NA)	33.4	(e)	(e)	(f)	(a)	19.8
28345 85	Premenstrual tension preparations	(NA)	([16])	([16])	([16])	([16])	([16])	7.5
28345 87	Vaginal cleaners	(NA)	34.1	(c)	(b)	31.9	-	9.9
28345 98	Other pharmaceutical preparations, acting on the genito-urinary system, including urinary tract anesthetics	(NA)	[16]46.8	[16]31.4	[16](c)	[16](f)	[16](a)	20.6
28345 00	Pharmaceutical preparations, acting on the digestive or genito-urinary systems, for human use, n.s.k.	(NA)	.1	(a)	(a)	(a)	(X)	1.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Number of companies with shipments of $100,000 or more	1977 value of product shipments[1] (million dollars)					1972 value of product shipments[8] (million dollars)
			Total	Prescription legend[4]	Over-the-counter professional[5]	Proprietary[6]	Bulk[7]	
2834- --	PHARMACEUTICAL PREPARATIONS--Con.							
28346 --	Pharmaceutical preparations acting on the skin, for human use:							
	As reported in census of manufactures	106	613.1	(X)	(X)	(X)	(X)	348.5
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals	(NA)	621.0	69.4	160.4	377.8	13.4	344.2
	Dermatological preparations, total	(NA)	393.9	58.7	138.4	194.8	2.0	188.2
28346 11	Emollients and protectives, including burn remedies and ointment bases	(NA)	99.7	1.1	21.9	76.7	-	43.4
28346 13	Antipuritics and local anesthetic skin preparations	(NA)	62.9	(e)	40.6	15.4	(a)	33.3
28346 15	Coal tar, sulfur, and resorcinol preparations	(NA)	9.6	(a)	(a)	9.2	-	7.3
28346 17	Anti-acne and antiseborrheic preparations	(NA)	113.7	(f)	39.6	58.8	(c)	41.2
28346 19	Other dermatological preparations	(NA)	108.0	(g)	(g)	34.7	(b)	63.0
28346 21	Hemorrhoidal preparations	(NA)	56.5	(d)	6.0	(g)	(a)	42.6
	External analgesics and counterirritants:							
28346 31	Ointments, jellies, pastes, creams, cerates, and salves	(NA)	38.4	(c)	(c)	34.9	-	28.7
28346 35	Liquid, excluding rubbing alcohol but including linaments	(NA)	23.5	(a)	1.8	21.3	(a)	20.0
28346 37	Rubbing alcohol	(NA)	19.7	-	.9	18.8	-	12.6
28346 39	Other external analgesics	(NA)	15.5	(c)	(a)	(f)	(a)	10.6
28346 98	Other pharmaceutical preparations acting on the skin	(NA)	62.9	1.9	(e)	41.2	(f)	29.8
28346 00	Pharmaceutical preparations acting on the skin, for human use, n.s.k.	(NA)	10.5	(c)	(d)	(e)	(X)	11.7
28347 --	Vitamin, nutrient, and hematinic preparations, for human use:							
	As reported in census of manufactures	123	1,315.4	(X)	(X)	(X)	(X)	690.5
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals	(NA)	1,302.0	611.5	171.4	382.1	137.0	587.4
	Vitamins, total	(NA)	682.8	132.6	138.3	296.4	115.4	322.7
28347 11	Multivitamins, plain and with minerals, except B complex vitamins and fish liver oils	(NA)	377.6	55.5	40.0	240.4	41.7	173.1
28347 13	Pediatric vitamin preparations (drops, suspensions, and chewable tablets)	(NA)	43.1	(b)	(g)	17.3	(a)	39.8
28347 14	Prenatal vitamin preparations	(NA)	26.4	(f)	(e)	3.0	(a)	15.5
28347 15	B complex preparations	(NA)	79.6	(f)	36.8	20.0	(e)	39.4
28347 17	Fluoride preparations	(NA)	156.1	42.7	30.1	15.8	67.4	9.5
28347 19	All other vitamin preparations	(NA)						45.4
28347 21	Fish liver oils (code, etc.)	(NA)	9.3	(c)	(c)	(d)	(c)	2.9
28347 31	Nutrients, excluding therapeutic dietary foods and infant formulas	(NA)	54.2	11.0	4.9	22.6	15.7	9.9
28347 41	Tonics and alternatives	(NA)	4.0	(a)	(a)	3.5	(a)	3.4
	Hematinics:							
	With B_{12}:							
28347 51	Oral	(NA)	20.9	14.5	3.6	1.3	1.4	16.5
28347 53	Parenteral	(NA)	2.7	(d)	-	(X)	(a)	6.5
	Other hematinics:							
28347 55	Oral	(NA)	55.4	(e)	9.6	(g)	1.0	44.8
28347 57	Parenteral	(NA)	5.3	(d)	(c)	(X)	-	4.0
28347 61	Hospital solutions, including dextran, etc., excluding biologicals (blood plasma)	(NA)	380.5	380.5	-	-	-	137.6
28347 98	Other vitamin, nutrient, and hematinic preparations	(NA)	87.0	59.6	11.2	14.5	1.7	35.1
28347 00	Vitamin, nutrient, and hematinic preparations, for human use, n.s.k.	(NA)	-	-	-	-	(X)	4.0
28348 --	Pharmaceutical preparations affecting parasitic and infective diseases, for human use:							
	As reported in census of manufactures	70	1,292.6	(X)	(X)	(X)	(X)	949.0
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals	(NA)	1,284.6	1,059.5	33.4	175.5	16.3	948.1
	Anti-infective agents, excluding corticoid-anti-infective combinations (see code 28341 15):							
28348 11	Amebacides and trichomonacides	(NA)	29.0	23.7	4.6	.7	-	8.8
28348 15	Anthelmintics	(NA)						6.1
	Systemic antibiotic preparations, total	(NA)	919.3	(g)	-	(X)	(f)	647.2
28348 21	Broad and medium spectrum (single or in combinations with other antibiotics, except penicillins)	(NA)	611.0	607.0	-	(X)	4.0	415.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Number of companies with shipments of $100,000 or more	1977 value of product shipments[1] (million dollars)					1972 value of product shipments[8] (million dollars)
			Total	Prescription legend[4]	Over-the-counter professional[5]	Proprietary[6]	Bulk[7]	
2834- --	PHARMACEUTICAL PREPARATIONS--Con.							
28348 --	Pharmaceutical preparations affecting parasitic and infective diseases, for human use--Con.							
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals--Con.							
	Anti-infective agents, excluding corticoid-anti-infective combinations (see code 28341 15)--Con.							
	Systemic antibiotic preparations--Con.							
	Penicillins (single):							
28348 23	Injectable	(NA)	104.4	(g)	-	(X)	(e)	47.5
28348 25	Other forms	(NA)	182.8	(g)	-	(X)	(c)	163.1
28348 27	Penicillin-streptomycin and/or dihydrostreptomycin combinations	(NA)	2.0	2.0	-	(X)	-	2.2
28348 29	Streptomycin and/or dihydrostreptomycin (single and combinations, except penicillin combinations)	(NA)						3.4
28348 31	Antibiotics in combination with sulfonamides	(NA)	19.2	19.2	-	(X)	-	2.7
28348 39	Other systemic antibiotic preparations	(NA)						13.2
28348 41	Topical antibiotic preparations	(NA)	22.8	15.3	3.3	4.2	-	16.0
	Tuberculostatic agents:							
28348 51	Izoniazid (isonicotinic acid hydrazide) preparations	(NA)	.8	.8	-	-	-	1.2
28348 55	Other antituberculars	(NA)	13.7	13.7	-	-	-	12.3
28348 61	Antimalarials (plasmodicides)	(NA)	5.8	(d)	(c)	(a)	(a)	9.4
28348 63	Sulfonamides, except antibiotic-sulfonamide combinations	(NA)	43.7	43.7	-	(X)	-	30.6
28348 65	Antifungal preparations	(NA)	69.5	(g)	(f)	(f)	(a)	44.3
28348 69	Other anti-infective agents	(NA)	7.2	4.5	(c)	(c)	(a)	8.7
	Antibacterials and antiseptics:							
28348 71	General	(NA)	39.7	8.9	5.0	25.9	-	28.3
28348 75	Mouth and throat preparations	(NA)	122.2	(d)	(a)	118.8	(a)	131.8
28348 98	Other pharmaceutical preparations affecting parasitic and infective diseases	(NA)	10.9	(c)	-	(e)	-	1.9
28348 00	Pharmaceutical preparations affecting parasitic and infective diseases, for human use, n.s.k.	(NA)	.1	(a)	(a)	(a)	(X)	1.4
28349 --	Pharmaceutical preparations for veterinary use:							
	As reported in census of manufactures	51	353.3	(X)	(X)	(X)	(X)	240.3
	As reported in Current Industrial Reports MA-28G, Pharmaceutical Preparations, Except Biologicals	(NA)	354.0	171.5	76.7	94.5	11.2	213.6
28349 11	Anesthetics	(NA)	3.5	3.3	(a)	-	(a)	2.1
28349 21	Anthelmintics	(NA)	57.5	22.9	9.1	(g)	(a)	26.6
28349 23	Antibiotics	(NA)	149.0	90.2	31.5	18.6	8.7	84.5
28349 25	Antiseptics, wound dressings, and fungicides	(NA)	8.5	4.0	2.7	(c)	(a)	6.9
28349 31	Hematinics	(NA)	.9	(a)	(a)	.4	-	1.8
28349 33	Hemostatics	(NA)	.2	(a)	(a)	(a)	-	.2
28349 35	Hormones	(NA)	14.1	12.7	(a)	(c)	-	6.0
28349 37	Intravenous solutions and electrolytes	(NA)	4.2	1.5	(c)	(b)	-	4.0
28349 41	Nitrofurans	(NA)	(17)	(17)	(17)	(17)	(17)	(17)
28349 43	Nutrients and tonics	(NA)	3.9	(b)	1.6	1.2	(a)	4.1
28349 45	Parasiticides, external	(NA)	35.4	(b)	7.6	26.3	(b)	17.2
28349 47	Sulfonamides	(NA)	12.4	7.4	(c)	2.5	(b)	18.5
28349 51	Tranquilizers and ataractics	(NA)	4.1	2.1	(c)	-	(a)	2.3
28349 55	Vitamins and minerals	(NA)	23.4	(d)	9.1	9.7	(a)	17.5
28349 98	Other pharmaceutical preparations for veterinary use	(NA)	17 36.0	17 20.4	17 8.4	17 (e)	17 (b)	17 21.9
28349 00	Pharmaceutical preparations for veterinary use, n.s.k.	(NA)	17.9	17 (a)	17 (a)	17 (a)	(X)	
28340 00	Pharmaceutical preparations, except biologicals, n.s.k., typically for companies with 5 employees or more (see note)	(NA)	97.2	(X)	(X)	(X)	(X)	59.1
28340 02	Pharmaceutical preparations, except biologicals, n.s.k., typically for companies with less than 5 employees (see note)	(NA)	108.1	(X)	(X)	(X)	(X)	27.5

Footnotes are on next page.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5-digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Other disclosure symbols (in thousands): (a) under $500; (b) $500 to $999; (c) $1,000 to $2,499; (d) $2,500 to $4,999; (e) $5,000 to $9,999; (f) $10,000 to $19,999; (g) over $20,000. (NA) Not available. n.e.c. Not eslewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

[1]Value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]1977 and 1972 totals for product classes 28314, 28315, and 28316 are not completely comparable because of 1977 revision of product class structure for industry 2831. For 1977, product class 28316 was formed from parts of product classes 28314 and 28315. For 1972, amount of product class 28316 included in totals for 28314 and 28315 is not known.

[3]For quantity of production and quantity and value of sales of individual synthetic organic chemicals, see U.S. International Trade Commission Annual Report, Synthetic Organic Chemicals: Production and Sales, for 1977 and 1972.

[4]Products which by federal law are available only by prescription from a licensed physician.

[5]Products sold over-the-counter and primarily promoted to the dental, medical, or veterinary professions.

[6]Products advertised or otherwise promoted to the general public.

[7]Represents dosage from pharmaceutical preparations shipped in bulk.

[8]For 1972, detailed data for ethical and proprietary domestic shipments, and export shipments appear in Volume II, 1972 Census of Manufactures, in table 6a of chapter devoted to this industry.

[9]Total includes $205.3 million of pharmaceutical preparations, not specified by kind, which were reported in census of manufactures (see product codes 28340 00 and 28340 02). Detailed information regarding Prescription Legend, OTC Professional, and Proprietary for this n.s.k. is not available; therefore, detail data does not add to total only at industry level.

[10]Over-the-Counter Professional combined with Prescription Legend for product code 28341 21.

[11]For 1972, product code 28341 31 was combined with product code 28341 39.

[12]For 1977 and 1972, product code 28342 11 was combined with product code 28342 98.

[13]For 1972, product code 28342 41 was combined with product code 28342 98.

[14]For 1972, product codes 28344 65 and 28344 71 were combined with product code 28344 79.

[15]Excludes non-pharmceutical type cough drops, which are classified as primary to Industry 2065, Confectionery Products.

[16]For 1977, product code 28345 85 was combined with product code 28345 98.

[17]For 1977, product code 28349 41 was combined with product code 28349 98; for 1972, product code 28349 41 was combined with product codes 28349 98 and 28349 00.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28313, ANTITOXINS, ANTIVENINS, SIMILAR DERIVATIVES, HUMAN USE		
United States	26.6	18.3
Middle Atlantic Division:		
Pennsylvania	5.0	BB
28314, DIAGNOSTIC SUBSTANCES, OTHER BIOLOGICS, EXCEPT THOSE FOR INDUSTRIAL USE		
United States	448.9	192.5
New England Division:		
Massachusetts	7.6	(NA)
Middle Atlantic Division:		
New York	26.4	15.3
New Jersey	110.0	EE
East North Central Division:		
Illinois	10.6	BB
Pacific Division:		
California	24.1	24.0
28315, BIOLOGICAL PRODUCTS FOR VETERINARY USE		
United States	121.1	74.1
East North Central Division:		
Wisconsin	4.6	BB
West North Central Division:		
Iowa	12.2	12.7
Kansas	25.6	EE
28316, BIOLOGICAL PRODUCTS FOR INDUSTRIAL AND OTHER USES		
United States	46.6	(NA)
Middle Atlantic Division:		
New Jersey	8.2	(NA)
28331, SYNTHETIC ORGANIC MEDICINAL CHEMICALS, IN BULK		
United States	1,787.8	635.6
Middle Atlantic Division:		
New York	67.3	GG
New Jersey	511.9	198.6
East North Central Division:		
Michigan	59.6	42.7
West North Central Division:		
Missouri	100.3	46.2
West South Central Division:		
Texas	18.7	CC
Pacific Division:		
California	15.5	CC
28332, OTHER MEDICINAL CHEMICAL AND BOTANICAL PRODUCTS, IN BULK		
United States	313.7	144.0
Middle Atlantic Division:		
New York	25.9	EE
New Jersey	62.2	40.9
East North Central Division:		
Illinois	46.7	FF
Michigan	9.9	(NA)
Wisconsin	11.7	BB
28341, PHARMACEUTICAL PREPARATIONS--NEOPLASM, ENDOCRINE, METABOLIC, HUMAN USE		
United States	905.3	615.4
Middle Atlantic Division:		
New Jersey	178.5	138.5
West North Central Division:		
Missouri	3.5	BB
28342, PHARMACEUTICAL PREPARATIONS--NERVOUS SYSTEM, SENSE ORGANS, HUMAN USE		
United States	2,254.4	1,638.1
Middle Atlantic Division:		
New York	275.0	GG
New Jersey	717.6	557.1
Pennsylvania	638.1	367.1
East North Central Division:		
Ohio	9.7	FF
Michigan	53.2	33.0
28343, PHARMACEUTICAL PREPARATIONS--CARDIOVASCULAR SYSTEM, HUMAN USE		
United States	748.4	383.1
Middle Atlantic Division:		
New Jersey	141.9	103.2
East North Central Division:		
Illinois	24.6	16.3
28344, PHARMACEUTICAL PREPARATIONS--RESPIRATORY SYSTEM, HUMAN USE		
United States	871.4	579.9
Middle Atlantic Division:		
New York	62.2	32.7
New Jersey	181.3	113.9
Pennsylvania	183.0	146.9
East North Central Division:		
Ohio	5.3	BB
Indiana	79.5	54.8
Illinois	44.6	19.8
West North Central Division:		
Missouri	22.7	20.6
28345, PHARMACEUTICAL PREPARATIONS--DIGESTIVE, URINARY SYSTEM, HUMAN USE		
United States	1,080.3	764.0
Middle Atlantic Division:		
New York	100.8	137.1
New Jersey	301.1	165.3
Pennsylvania	129.9	108.2
East North Central Division:		
Ohio	46.1	26.3
Illinois	65.5	82.3
Michigan	27.5	18.5
Pacific Division:		
California	58.1	GG
28346, PHARMACEUTICAL PREPARATIONS--ACTING ON THE SKIN, HUMAN USE		
United States	613.1	348.5
New England Division:		
Connecticut	32.4	FF
Middle Atlantic Division:		
New York	130.5	57.6
New Jersey	105.7	81.6
Pennsylvania	62.9	25.5
East North Central Division:		
Illinois	62.9	33.3
Michigan	28.2	14.1
West North Central Division:		
Missouri	6.8	8.4
East South Central Division:		
Tennessee	18.8	19.9
West South Central Division:		
Texas	26.2	EE
Pacific Division:		
California	15.6	5.0

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** – Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28347, VITAMIN, NUTRIENT, HEMATINIC PREPARATIONS, HUMAN USE		
United States	1,315.4	690.5
Middle Atlantic Division:		
New Jersey	179.2	107.6
East North Central Division:		
Ohio	14.0	CC
Indiana	112.5	84.2
Illinois	119.9	GG
Michigan	106.3	82.6
Pacific Division:		
California	287.3	96.7
28348, PHARMACEUTICAL PREPARATIONS--PARASITIC, INFECTIVE DISEASES, HUMAN USE		
United States	1,292.6	949.0
Middle Atlantic Division:		
New York	267.8	250.2
New Jersey	285.9	178.4
Pennsylvania	141.3	GG
West North Central Division:		
Missouri	10.4	1.1
28349, PHARMACEUTICAL PREPARATIONS FOR VETERINARY USE		
United States	353.3	240.3
Middle Atlantic Division:		
New Jersey	57.1	FF
East North Central Division:		
Illinois	11.1	12.5
West North Central Division:		
Iowa	26.9	17.8

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2831-	Biological products	1,067.5	874.1	788.2	684.4	559.2	495.2	220.6	167.3
28311	Blood and blood derivatives, for human use	243.1	180.0	164.5	164.8	153.3	125.9	35.9	(NA)
28312	Vaccines, toxoids, and antigens, for human use	99.4	91.1	76.2	79.6	83.0	70.5	36.6	(NA)
28313	Antitoxins, antivenins, similar derivatives human use.	26.6	(19.5)	(19.2)	21.9	(S)	18.3	12.7	(NA)
28314	Diagnostic substances, other biologics, except those for industrial use	[2]448.9	477.8	427.2	315.8	201.9	192.5	81.9	(NA)
28315	Biological products for veterinary use	[2]121.1	92.3	73.2	64.5	86.9	74.1	47.9	40.7
28316	Biological products for industrial and other uses	[2]46.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
28310	Biological products, n.s.k.	81.8	(13.3)	(28.0)	37.8	16.8	13.8	5.7	1.3
2833-	Medicinals and botanicals	2,205.9	1,774.4	1,489.7	1,466.9	985.5	793.5	593.8	434.0
28331	Synthetic organic medicinal chemicals, in bulk	1,787.8	1,545.3	1,297.1	1,248.1	814.9	635.6	503.7	367.8
28332	Other medicinal chemicals and botanical products	313.7	225.6	186.4	(205.4)	157.1	144.0	80.1	64.7
28330	Medicinals and botanicals, n.s.k.	104.4	(S)	(S)	(13.4)	13.5	14.0	10.0	1.5
2834-	Pharmaceutical preparations	9,639.5	9,217.3	8,247.2	7,463.2	6,841.0	6,295.4	4,139.7	3,000.2
28341	Pharmaceutical preparations--neoplasm, endocrine, metabolic, human use	905.3	873.1	832.4	759.7	639.6	615.4	420.2	259.1
28342	Pharmaceutical preparations--nervous system, sense organs, human use	2,254.4	2,227.5	2,086.3	1,860.6	1,717.6	1,638.1	1,137.1	755.8
28343	Pharmaceutical preparations--cardiovascular system, human use	748.4	755.3	642.3	524.7	439.7	383.1	207.5	143.6
28344	Pharmaceutical preparations--respiratory system, human use	871.4	877.8	764.9	665.0	619.1	579.9	361.4	283.1
28345	Pharmaceutical preparations--digestive, urinary system, human use	1,080.3	1,052.5	932.9	829.3	755.4	764.0	552.1	402.8
28346	Pharmaceutical preparations--acting on the skin, human use	613.1	562.3	499.2	467.0	386.7	348.5	229.1	160.3
28347	Vitamin, nutrient, hematinic preparations, human use	1,315.4	1,114.6	999.4	913.6	865.7	690.5	378.4	340.8
28348	Pharmaceutical preparations--parasitic, infective diseases, human use	1,292.6	1,292.1	1,110.4	1,104.9	1,054.1	949.0	664.5	520.1
28349	Pharmaceutical preparations, veterinary use	353.3	369.0	297.0	269.3	265.8	240.3	135.4	110.4
28340	Pharmaceutical preparations, n.s.k.	205.3	(93.1)	(82.3)	(69.1)	97.3	86.6	54.1	24.3

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]1977 totals for product classes 28314, 28315, and 28316 are not completely comparable to prior years because of 1977 revision to product class structure for industry 2831. For 1977, product class 28316 was formed from parts of product classes 28314 and 28315. Amount of product class 28316 included in totals for 28314 and 28315 is not known for prior years.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	1977, delivered cost (million dollars)	1972, delivered cost (million dollars)
	INDUSTRY 2831, BIOLOGICAL PRODUCTS		
	Materials, containers, and supplies	309.4	123.3
283318	Antibiotics for human and veterinary use, bulk, excluding antibiotics for animal feeds	2.9	
283317	Sulfa drugs, bulk	2.4	
283301	Vitamins, natural and synthetic, bulk, excluding vitamins for animal feeds	(D)	
019101	Agricultural products, crude, including flowers, grains, seeds, herbs, etc	17.1	
200101	Processed food and kindred products, including lactose, meat packing plant products, yeast, etc	5.8	
283111	Blood derivatives and extenders	115.7	
283121	Acetyl salicylic acid	-	(1)
283322	Alkaloids	-	
	Hormones:		
283313	Synthetic	.1	
283324	Natural	(D)	
	Alcohols:		
286954	Ethyl and methyl	.8	
286956	Other alcohols	(D)	
289943	Gelatin (pharmaceutical grade) and gelatin capsules	(D)	
	Containers:		
265001	Paperboard boxes and containers	11.7	4.3
322102	Glass	13.3	7.8
340001	Metal	.9	.4
307940	Plastics	14.3	2.0
970099	All other materials and components, parts, containers, and supplies	77.4	[1]97.4
971000	Materials, containers, and supplies, n.s.k.[2]	43.7	11.4
	INDUSTRY 2833, MEDICINALS AND BOTANICALS		
	Materials, containers, and supplies	616.1	207.8
283318	Antibiotics for human and veterinary use, bulk, excluding antibiotics for animal feeds	42.6	
283317	Sulfa drugs, bulk	9.0	5.8
283301	Vitamins, natural and synthetic, bulk, excluding vitamins for animal feeds	17.0	
019101	Agricultural products, crude, including flowers, grains, seeds, herbs, etc	30.7	27.7
200101	Processed food and kindred products, including lactose, meat packing plant products, yeast, etc	47.8	(1)
283111	Blood derivatives and extenders	(D)	(1)
283321	Acetyl salicylic acid	(D)	(1)
283322	Alkaloids	(D)	(1)
	Hormones:		
283313	Synthetic	(D)	(1)
283324	Natural	-	(1)
	Alcohols:		
286954	Ethyl and methyl	6.3	(1)
286956	Other alcohols	4.0	(1)
289943	Gelatin (pharmaceutical grade) and gelatin capsules	1.7	(1)
	Containers:		
265001	Paperboard boxes and containers	10.9	3.3
322102	Glass	3.3	2.0
340001	Metal	4.5	
307940	Plastics	1.3	1.7
970099	All other materials and components, parts, containers, and supplies	386.1	[1]157.8
971000	Materials, containers, and supplies, n.s.k.[2]	45.6	9.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	1977, delivered cost (million dollars)	1972, delivered cost (million dollars)
	INDUSTRY 2834, PHARMACEUTICAL PREPARATIONS		
	Materials, containers, supplies	2,831.3	1,372.0
283318	Antibiotics for human and veterinary use, excluding antibiotics for animal feeds	195.8	57.3
283317	Sulfa drugs, bulk	5.4	22.4
283301	Vitamins, natural and synthetic, bulk, excluding vitamins for animal feeds	219.4	114.7
019101	Agricultural products, crude, including flowers, grains, seeds, herbs, etc	18.5	[3]10.0
200101	Processed food and kindred products, including lactose, meat packing plant products, yeast, etc	50.5	[3]30.0
283111	Blood derivatives and extenders	16.9	[3]13.0
283321	Acetyl salicylic acid	23.3	[3]11.0
283322	Alkaloids	64.3	[3]9.0
	Hormones:		
283313	Synthetic	25.7	[3]31.0
283324	Natural	14.5	
	Alcohols:		
286954	Ethyl and methyl	22.9	[3]12.0
286956	Other alcohols	24.4	
289943	Gelatin (pharmaceutical grade) and gelatin capsules	47.2	[3]31.0
	Containers:		
265001	Paperboard boxes and containers	167.1	104.4
322102	Glass	196.3	130.6
340001	Metal	52.5	41.1
307940	Plastics	143.8	75.5
970099	All other materials and components, parts, containers, and supplies[4]	1,316.6	627.0
971000	Materials, containers, and supplies, n.s.k.[2]	226.2	52.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.s.k. Not specified by kind.

[1]For 1972, these material codes were included with material code 970099.

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[4]For industry 2834, supplemental data for code 970099 are presented in 1977 Census of Manufactures subject series report "Selected Materials Consumed."

Soap, Cleaners, and Toilet Goods

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DESCRIPTION OF INDUSTRIES

SOAP, CLEANERS, AND TOILET GOODS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries.

SIC Code and Title

2841 Soap and Other Detergents
2842 Polishes and Sanitation Goods
2843 Surface Active Agents
2844 Toilet Preparations

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a–5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2841, SOAP AND OTHER DETERGENTS

This industry comprises establishments primarily engaged in the manufacture of soap, synthetic organic detergents, inorganic alkaline detergents, or any combination thereof, and establishments engaged in the production of crude and refined glycerin from vegetable and animal fats and oils. Establishments primarily engaged in the manufacture of shampoos or shaving products, whether from soap or synthetic detergents, are classified in industry 2844, and synthetic glycerin in industry 2869.

The total value of shipments for establishments classified in the Soap and Other Detergents industry amounted to $5,671 million in 1977, an increase of 67 percent from 1972. The value of shipments of products classified as primary to the industry was $5,000 million, an increase of 75 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were household, dry (solid or powder), heavy-duty, synthetic organic detergents (phosphate free), for which shipments increased 578 percent, and household toilet soap, for which shipments increased 81 percent. Value added by manufacture, at $2,868 million in 1977, was 41 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 32.1 thousand employees, an increase of 2 percent from 1972. The leading States in employment were New Jersey, California, Ohio, and Illinois, accounting for 40 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for 43 percent of the industry's employment; however, their relative importance has shifted.

Establishments of single-unit companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 2842, POLISHES AND SANITATION GOODS

This industry comprises establishments primarily engaged in the manufacture of furniture, metal, and other polishes; waxes and dressings for fabricated leather and other materials; household, institutional, and industrial plant disinfectants and deodorants; household bleaches; dry cleaning preparations; and other sanitation preparations.

The total value of shipments for establishments classified in the Polishes and Sanitation Goods industry amounted to $3,136 million in 1977, an increase of 68 percent from 1972. The value of shipments of products classified as primary to the industry was $2,669 million, an increase of 55 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were specialty cleaning and sanitation preparations,

for which shipments increased 67 percent. Value added by manufacture, at $1,664 million in 1977, was 49 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 22.0 thousand employees, a decrease of 12 percent from 1972. The leading States in employment were Illinois, California, New Jersey, and New York, accounting for 43 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 2843, SURFACE ACTIVE AGENTS

This industry comprises establishments primarily engaged in the manufacture of surface active preparations for use as wetting agents, emulsifiers, and penetrants. Establishments engaged in the manufacture of sulfonated oils and fats and related products are also included in this industry.

The total value of shipments for establishments classified in the surface active agents industry amounted to $944 million in 1977, an increase of 104 percent from 1972. The value of shipments of products classified as primary to the industry was $1,341 million, an increase of 131 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were bulk service active agents, for which shipments increased 194 percent. Value added by manufacture, at $345 million in 1977, was 65 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 6.5 thousand employees, a decrease of 6 percent from 1972. The leading States in employment were New Jersey, Illinois, Pennsylvania, and South Carolina, accounting for approximately 50 percent of the industry's 1977 employment. Data for South Carolina have been withheld to avoid disclosing operations of individual companies.

Establishments of single-unit companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 2844, TOILET PREPARATIONS

This industry comprises establishments primarily engaged in the manufacture of perfumes (natural and synthetic), cosmetics, and other toilet preparations. It also includes establishments primarily engaged in blending and compounding perfume bases, and those manufacturing shampoos and shaving products, whether from soap or synthetic detergents. Establishments primarily engaged in the manufacture of synthetic perfume and flavoring are classified in industry 2869, and essential oils in industry 2899.

The total value of shipments for establishments classified in the Toilet Preparations industry amounted to $6,557 million in 1977, an increase of 62 percent from 1972. The value of shipments of products classified as primary to the industry was $6,394 million, an increase of 51 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were perfumes, toilet waters, and colognes, for which shipments increased 62 percent, and hair preparations, including shampoos, for which shipments increased 38 percent. Value added by manufacture, at $4,527 million in 1977, was 60 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 50.9 thousand employees, an increase of 6 percent from 1972. The leading States in employment were New Jersey, New York, California, and Illinois, accounting for 63 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for 62 percent of the industry's employment; however their relative importance has shifted.

Establishments of single-unit companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (number)	All establishments: Total (number)	All establishments: With 20 employees or more (number)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2841, SOAP AND OTHER DETERGENTS																
1977 Census...	554	635	225	32.1	521.6	20.5	41.0	308.1	2,867.5	2,817.9	5,671.4	134.9	(NA)	643.4	84	89
1976 ASM.....	(NA)	(NA)	(NA)	29.8	445.2	19.7	39.2	268.0	2,664.9	2,581.8	5,201.9	124.9	1,264.9	591.4	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	29.4	397.9	19.3	38.1	241.2	2,249.2	2,383.3	4,675.6	107.2	1,184.2	536.0	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	30.9	385.3	20.0	40.5	229.7	2,267.4	2,216.3	4,383.9	103.5	1,087.8	592.1	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	32.4	371.2	20.9	41.3	222.0	2,011.3	1,699.4	3,758.7	77.0	1,004.7	379.9	(NA)	(NA)
1972 Census...	577	642	199	31.5	341.6	20.4	40.9	205.9	2,038.8	1,373.7	3,394.4	90.7	982.2	381.7	83	90
1971 ASM.....	(NA)	(NA)	(NA)	30.1	305.5	19.2	38.0	178.7	1,728.1	1,291.4	3,020.7	96.2	903.9	320.4	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	30.9	283.5	19.9	39.8	171.6	1,647.6	1,375.5	2,987.3	84.7	839.7	317.8	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	30.8	269.8	20.5	40.5	161.5	1,542.7	1,346.1	2,888.6	48.6	725.9	274.7	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	29.6	246.7	19.8	38.8	150.6	1,485.9	1,286.7	2,763.0	46.0	688.1	266.7	(NA)	(NA)
1967 Census...	599	668	207	30.3	243.0	20.2	40.1	145.3	1,403.7	1,202.0	2,593.4	48.1	643.7	250.5	83	90
1966 ASM.....	(NA)	(NA)	(NA)	28.8	221.5	19.1	39.4	133.1	1,296.9	1,110.0	2,395.9	31.2	(NA)	226.9	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	30.0	218.3	19.8	40.0	128.0	1,219.5	1,063.7	2,285.7	36.6	(NA)	206.9	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	31.7	226.0	20.7	42.0	133.3	1,206.7	1,030.8	2,227.8	28.2	574.3	210.6	(NA)	(NA)
1963 Census...	641	704	172	30.8	214.1	20.1	41.0	127.6	1,137.4	990.5	2,127.8	44.1	555.0	195.2	82	92
INDUSTRY 2842, POLISHES AND SANITATION GOODS[3]																
1977 Census...	943	1,018	237	22.0	274.1	14.1	27.2	148.3	1,663.7	1,478.5	3,136.2	51.8	(NA)	273.5	76	79
1976 ASM.....	(NA)	(NA)	(NA)	23.5	276.3	13.5	26.7	130.0	1,451.5	1,346.3	2,775.4	51.5	428.1	252.4	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	23.8	264.0	13.5	25.9	120.6	1,285.7	1,204.7	2,491.9	42.1	400.5	233.9	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	24.4	245.4	13.8	26.9	113.8	1,205.0	1,026.6	2,197.8	35.2	381.1	245.6	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	25.5	231.5	14.6	28.8	106.0	1,165.8	821.5	1,971.8	51.9	375.2	171.1	(NA)	(NA)
1972 Census...	1,022	1,108	243	25.1	216.9	14.7	28.6	100.5	1,118.1	758.6	1,867.6	54.3	365.2	151.6	81	83
INDUSTRY 2843, SURFACE ACTIVE AGENTS																
1977 Census...	149	175	84	6.5	101.7	3.7	7.7	47.2	345.0	602.6	943.5	40.9	(NA)	116.2	81	55
1976 ASM.....	(NA)	(NA)	(NA)	7.4	106.1	3.9	8.0	48.1	328.4	548.6	867.8	35.6	307.9	117.1	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	6.7	91.4	3.7	7.8	42.4	269.7	431.0	705.6	34.7	278.4	100.6	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	7.8	95.2	4.4	9.2	46.6	334.3	483.0	797.5	31.6	277.8	117.4	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	6.3	73.2	3.4	6.8	32.5	211.3	277.7	488.5	[5]25.1	220.2	66.6	(NA)	(NA)
1972 Census...	151	178	86	6.9	71.5	3.8	7.7	32.3	209.5	257.0	462.6	19.7	215.3	61.4	81	60
1971 ASM.....	(NA)	(NA)	(NA)	6.6	68.5	3.5	7.3	30.0	173.3	215.6	388.3	19.8	168.0	52.3	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	6.4	60.4	3.4	7.0	26.6	163.3	212.3	375.1	21.9	152.0	48.9	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	5.8	57.7	3.0	6.2	22.7	151.4	174.6	324.0	8.3	136.5	42.5	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	5.9	54.9	3.2	6.5	22.7	141.5	187.6	328.9	9.1	144.2	40.7	(NA)	(NA)
1967 Census...	154	164	71	5.7	49.9	3.1	6.3	20.6	129.5	166.5	294.2	8.0	141.3	37.6	79	54
1966 ASM.....	(NA)	(NA)	(NA)	5.0	45.9	2.6	5.6	17.8	112.5	142.6	252.1	9.1	(NA)	30.6	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	4.6	38.6	2.4	5.0	15.3	96.0	120.4	214.5	7.2	(NA)	26.1	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	4.5	36.0	2.4	4.9	14.4	88.7	114.1	200.5	[5]5.8	101.7	25.7	(NA)	(NA)
1963 Census...	137	148	59	4.1	31.9	2.2	4.6	12.8	75.7	101.5	177.8	7.2	95.8	22.5	80	47
INDUSTRY 2844, TOILET PREPARATIONS																
1977 Census...	644	693	192	50.9	627.9	32.8	62.9	318.9	4,526.7	2,059.4	6,557.2	105.6	(NA)	760.3	95	87
1976 ASM.....	(NA)	(NA)	(NA)	49.2	587.4	32.1	62.4	293.1	4,024.5	1,906.5	5,896.3	75.7	813.6	678.4	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	48.3	524.7	30.3	58.0	266.0	3,443.2	1,698.2	5,154.8	70.6	802.2	674.8	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	48.2	495.2	30.4	59.4	250.6	3,266.0	1,555.1	4,767.9	58.9	739.4	694.1	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	49.6	463.6	31.2	59.5	235.2	3,096.1	1,283.7	4,358.5	72.8	692.5	536.2	(NA)	(NA)
1972 Census...	593	646	205	48.2	428.2	31.8	61.0	219.6	2,834.1	1,241.1	4,057.3	71.4	652.8	469.4	94	86
1971 ASM.....	(NA)	(NA)	(NA)	45.9	379.6	27.4	54.5	180.8	2,509.6	1,096.1	3,633.1	63.7	599.0	412.7	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	48.8	377.7	29.8	59.3	178.9	2,429.6	1,067.7	3,452.2	78.8	555.8	449.0	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	47.0	333.8	29.4	57.2	159.7	2,173.7	993.8	3,163.2	49.7	420.0	381.9	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	44.6	300.5	28.0	54.5	142.6	2,028.9	932.8	2,933.8	49.8	391.6	332.6	(NA)	(NA)
1967 Census...	624	672	193	41.5	262.2	26.4	50.2	125.0	1,730.6	804.9	2,515.6	52.7	364.9	278.0	94	80
1966 ASM.....	(NA)	(NA)	(NA)	40.6	248.2	25.3	49.6	121.6	1,674.9	780.2	2,430.6	33.6	(NA)	255.0	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	37.8	215.7	23.9	46.5	105.2	1,506.0	709.9	2,201.2	35.4	(NA)	212.4	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	35.4	193.3	21.7	43.1	97.1	1,378.8	629.0	2,003.8	19.9	228.1	189.9	(NA)	(NA)
1963 Census...	673	707	183	34.3	183.2	21.6	42.4	92.5	1,232.9	565.1	1,792.7	20.2	209.9	175.0	91	84

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available.

[1] In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the industry chapter.

[2] For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3] Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4] Data for 1967 and 1963 were derived from table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5] Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6] Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7] Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8] Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dol.)	Assets per employee (dol.)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2841, SOAP AND OTHER DETERGENTS										
1977 Census...	16,249	(NA)	64	2,000	7.51	51	60	(NA)	87,785	19	68.73
1976 ASM.....	14,940	42,446	66	1,990	6.84	50	58	24	89,426	17	67.98
1975 ASM.....	13,534	40,279	66	1,974	6.33	51	59	25	76,503	18	59.03
1974 ASM.....	12,469	35,204	65	2,025	5.67	51	59	25	73,379	17	55.99
1973 ASM.....	11,457	31,009	65	1,976	5.38	45	55	27	62,077	18	48.70
1972 Census...	10,844	31,181	65	2,005	5.03	40	51	29	64,724	17	49.85
1971 ASM.....	10,150	30,030	64	1,979	4.70	43	53	30	57,412	18	45.48
1970 ASM.....	9,175	27,170	64	2,000	4.31	46	56	28	53,320	17	41.40
1969 ASM.....	8,760	23,570	67	1,976	3.99	47	56	25	50,088	18	38.09
1968 ASM.....	8,334	23,250	67	1,960	3.88	47	55	25	50,199	17	38.30
1967 Census...	8,020	21,240	67	1,985	3.62	46	56	25	46,327	17	35.00
1966 ASM.....	7,703	(NA)	66	2,066	3.38	46	56	(NA)	45,099	17	32.95
1965 ASM.....	7,277	(NA)	66	2,022	3.20	47	56	(NA)	40,646	18	30.45
1964 ASM.....	7,136	18,120	65	2,033	3.17	46	56	26	38,105	19	28.73
1963 Census...	6,954	18,020	65	2,038	3.11	47	57	26	36,937	19	27.74
	INDUSTRY 2842, POLISHES AND SANITATION GOODS										
1977 Census...	12,459	(NA)	64	1,929	5.45	47	56	(NA)	75,623	16	61.17
1976 ASM.....	11,757	18,217	57	1,978	4.87	49	58	15	61,766	19	54.36
1975 ASM.....	11,092	16,828	57	1,919	4.66	48	59	16	54,021	21	49.64
1974 ASM.....	10,057	15,619	57	1,949	4.23	47	58	17	49,385	20	44.80
1973 ASM.....	9,078	14,714	57	1,973	3.68	42	53	19	45,718	20	40.48
1972 Census...	8,641	14,550	59	1,946	3.51	41	52	20	44,546	19	39.09
	INDUSTRY 2843, SURFACE ACTIVE AGENTS										
1977 Census...	15,646	(NA)	57	2,081	6.13	64	75	(NA)	53,077	29	44.81
1976 ASM.....	14,338	41,608	53	2,051	6.01	63	75	36	44,378	32	41.05
1975 ASM.....	13,642	41,552	55	2,108	5.44	61	74	40	40,254	34	34.58
1974 ASM.....	12,205	35,615	56	2,091	5.07	61	73	35	42,859	28	36.34
1973 ASM.....	11,619	34,952	54	2,000	4.78	57	72	45	33,540	35	31.07
1972 Census...	10,362	31,203	55	2,026	4.19	56	71	47	30,362	34	27.21
1971 ASM.....	10,379	25,450	53	2,086	4.11	56	73	43	26,258	40	23.74
1970 ASM.....	9,438	23,750	53	2,059	3.80	57	73	41	25,516	37	23.33
1969 ASM.....	9,948	24,530	52	2,067	3.66	54	72	42	26,103	38	24.42
1968 ASM.....	9,305	24,440	54	2,031	3.49	57	74	44	23,983	39	21.77
1967 Census...	8,687	24,790	53	2,073	3.24	57	74	48	22,533	39	20.40
1966 ASM.....	9,185	(NA)	51	2,167	3.20	57	75	(NA)	22,533	41	20.22
1965 ASM.....	8,415	(NA)	51	2,103	3.09	56	74	(NA)	20,904	40	19.38
1964 ASM.....	7,943	22,600	53	2,063	2.91	57	75	50	19,589	41	17.96
1963 Census...	7,764	23,370	53	2,121	2.79	57	75	54	18,427	42	16.51
	INDUSTRY 2844, TOILET PREPARATIONS										
1977 Census...	12,336	(NA)	64	1,918	5.07	31	41	(NA)	88,933	14	71.97
1976 ASM.....	11,939	16,537	65	1,944	4.70	32	42	14	81,799	15	64.50
1975 ASM.....	10,863	16,609	63	1,914	4.59	33	43	16	71,288	15	59.37
1974 ASM.....	10,274	15,340	63	1,954	4.22	33	43	16	67,759	15	54.98
1973 ASM.....	9,347	13,962	63	1,907	3.95	30	40	16	62,421	15	52.04
1972 Census...	8,884	13,544	66	1,918	3.60	31	41	16	58,799	15	46.46
1971 ASM.....	8,270	13,050	60	1,989	3.32	30	41	16	54,675	15	46.05
1970 ASM.....	7,740	11,390	61	1,990	3.02	31	42	16	49,787	15	40.97
1969 ASM.....	7,102	8,940	63	1,946	2.79	31	42	13	46,249	15	38.00
1968 ASM.....	6,738	8,780	63	1,946	2.62	32	42	13	45,491	15	37.23
1967 Census...	6,305	8,790	63	1,909	2.48	32	43	15	41,597	15	34.44
1966 ASM.....	6,106	(NA)	62	1,965	2.45	32	42	(NA)	41,208	15	33.75
1965 ASM.....	5,712	(NA)	63	1,948	2.26	32	42	(NA)	39,882	14	32.36
1964 ASM.....	5,461	6,440	61	1,985	2.25	31	41	11	38,951	14	31.97
1963 Census...	5,336	6,120	63	1,969	2.18	32	42	12	35,904	15	29.04

Note: For qualifications to data, see footnotes on table 1a.

(NA) Not available.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**

(For explanation of terms, see appendix A)

Industry and geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	New capital expenditures (mil. dol.)	All employees[2] (1,000)	Value added by manufacture (mil. dol.)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (millions)	Wages (mil. dol.)						
INDUSTRY 2841, SOAP AND OTHER DETERGENTS														
United States		635	225	32.1	521.6	20.5	41.0	308.1	2,867.5	2,817.9	5,671.4	134.9	31.5	2,038.8
New England Division:														
Massachusetts		15	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Rhode Island	E1	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Middle Atlantic Division:														
New York		54	15	2.1	32.9	1.4	3.0	20.8	114.5	175.7	289.8	(D)	2.2	82.7
New Jersey		51	24	4.0	69.1	2.8	5.5	43.3	356.8	290.3	649.3	13.8	3.5	263.0
Pennsylvania	E1	35	9	.8	10.0	.6	1.0	6.0	41.9	54.5	96.6	.2	CC	(D)
East North Central Division:														
Ohio		38	15	2.8	48.2	1.9	3.8	30.3	250.7	295.9	547.0	1.5	3.0	207.6
Indiana		9	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois		46	20	2.7	41.9	1.9	3.9	29.1	300.1	254.8	550.3	12.3	3.1	176.5
Michigan		31	14	2.3	32.4	1.1	2.1	11.6	181.8	137.6	319.2	(D)	EE	(D)
Wisconsin	E3	20	8	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	5.0
West North Central Division:														
Minnesota	E1	14	5	.3	4.4	.1	.2	1.2	11.5	13.8	24.9	(D)	.2	6.1
Iowa		8	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Missouri		22	10	2.2	37.8	1.3	2.7	21.4	187.0	195.4	377.9	4.4	1.8	119.9
Nebraska	E1	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Kansas		4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Atlantic Division:														
Maryland		6	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Georgia		23	16	1.6	22.4	.8	1.6	9.2	163.6	122.8	284.7	4.2	1.3	89.7
Florida	E2	19	5	.4	4.1	.1	.3	1.5	12.3	17.5	30.0	1.6	AA	(D)
East South Central Division:														
Tennessee	E1	7	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Mississippi		3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Louisiana		9	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Texas		36	10	1.0	15.0	.6	1.2	9.4	123.8	94.3	216.8	3.2	CC	(D)
Pacific Division:														
California		99	32	3.5	59.7	2.4	4.7	37.8	332.0	386.1	710.3	19.6	3.8	238.5
INDUSTRY 2842, POLISHES AND SANITATION GOODS														
United States		1,018	237	22.0	274.1	14.1	27.2	148.3	1,663.7	1,478.5	3,136.2	51.8	25.1	1,118.1
New England Division:														
Massachusetts	E1	44	12	.8	9.7	.4	.8	3.8	32.3	38.1	70.2	.5	.9	22.5
Rhode Island		4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Connecticut	E1	15	3	.2	2.5	.1	.2	1.2	12.3	10.0	22.3	.3	CC	(D)
Middle Atlantic Division:														
New York	E1	96	27	2.0	22.3	1.2	2.1	10.1	100.6	81.8	182.0	(D)	2.2	66.9
New Jersey		59	18	2.0	28.7	1.3	2.5	15.5	196.0	155.9	352.9	6.3	2.0	115.4
Pennsylvania		48	14	1.1	12.6	.7	1.4	6.8	58.0	66.4	124.1	1.8	1.3	36.1
East North Central Division:														
Ohio		51	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Indiana	E1	19	5	.8	8.8	.3	.5	1.6	22.1	17.4	39.4	(D)	CC	(D)
Illinois		85	29	3.1	37.5	2.0	4.0	22.6	211.0	197.9	404.2	(D)	3.8	187.5
Michigan		39	7	.6	7.2	.3	.6	3.6	54.0	38.3	92.3	(D)	CC	(D)
Wisconsin		24	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West North Central Division:														
Minnesota		15	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri		37	11	1.0	13.1	.7	1.2	7.1	67.6	77.9	146.1	1.5	EE	(D)
Kansas		18	3	.2	2.5	.1	.2	1.1	9.1	13.3	21.6	.2	.2	2.8
South Atlantic Division:														
Maryland	E1	15	5	.2	2.3	.1	.2	.9	14.5	21.3	35.8	.7	.5	11.1
North Carolina		17	3	.2	1.9	.1	.2	.8	15.6	22.5	38.0	.2	(NA)	(NA)
South Carolina		11	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia		23	9	.9	10.3	.6	1.2	6.6	85.6	68.5	152.5	1.9	1.6	71.0
Florida	E1	47	6	.5	4.6	.3	.6	2.6	19.7	30.6	50.1	(D)	.3	10.7
East South Central Division:														
Kentucky		5	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	E1	21	3	.2	2.0	.1	.2	.8	9.2	6.8	16.2	(D)	BB	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

(For explanation of terms, see appendix A)

Industry and geographic area		1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	New capital expenditures (mil. dol.)	All employees[2] (1,000)	Value added by manufacture (mil. dol.)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (millions)	Wages (mil. dol.)						
INDUSTRY 2842, POLISHES AND SANITATION GOODS--Con.														
West South Central Division:														
Louisiana	E3	14	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Texas	E1	49	7	.6	7.1	.4	.8	3.9	40.2	51.6	91.2	1.6	EE	(D)
Mountain Division:														
Colorado	E2	18	3	.2	2.2	.1	.2	.8	10.3	8.3	18.5	(D)	(NA)	(NA)
Pacific Division:														
California		155	35	2.4	30.8	1.5	3.0	16.7	122.2	165.5	287.6	(D)	EE	(D)
INDUSTRY 2843, SURFACE ACTIVE AGENTS														
United States		175	84	6.5	101.7	3.7	7.7	47.2	345.0	602.6	943.5	40.9	6.9	209.5
New England Division:														
Massachusetts		18	5	.5	7.6	.3	.7	3.2	18.3	23.0	41.1	.7	BB	(D)
Rhode Island		6	4	.2	2.7	.2	.4	1.2	6.0	15.1	20.7	(D)	.2	4.7
Middle Atlantic Division:														
New Jersey		32	16	1.0	16.5	.5	1.1	7.0	44.9	102.9	147.1	4.2	1.4	40.7
Pennsylvania		12	9	.6	9.1	.3	.7	4.5	29.6	56.0	85.6	1.3	CC	(D)
East North Central Division:														
Illinois		12	8	.9	13.5	.5	1.2	8.2	51.4	106.5	156.2	(D)	.8	33.2
Wisconsin		2	2	.2	2.6	.1	.2	1.7	15.2	21.3	36.2	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware		1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Maryland		2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
North Carolina		17	9	.5	7.7	.2	.5	2.4	29.2	45.8	74.6	1.5	.6	17.3
South Carolina		15	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California		9	3	.2	3.0	.1	.2	1.5	10.9	19.1	29.4	(D)	BB	(D)
INDUSTRY 2844, TOILET PREPARATIONS														
United States		693	192	50.9	627.9	32.8	62.9	318.9	4,526.7	2,059.4	6,557.2	105.6	48.2	2,834.1
New England Division:														
Massachusetts		10	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Connecticut		16	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Middle Atlantic Division:														
New York		135	38	7.3	79.1	5.3	10.2	47.1	704.4	255.3	954.9	12.9	6.7	269.1
New Jersey		81	40	15.1	214.6	8.7	17.0	89.7	873.8	450.6	1,315.9	26.9	13.8	587.0
Pennsylvania	E1	24	3	.4	4.6	.2	.4	2.2	26.4	10.9	37.9	.4	1.0	28.2
East North Central Division:														
Ohio		31	9	2.8	42.9	1.9	4.1	27.0	656.0	189.8	844.0	8.0	FF	(D)
Indiana	E1	6	3	.2	1.8	.2	.3	1.2	3.9	3.8	7.6	(D)	(NA)	(NA)
Illinois		54	15	4.2	51.4	2.8	5.9	30.9	584.7	231.5	811.9	11.1	4.6	419.1
Wisconsin		7	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West North Central Division:														
Minnesota		12	6	1.6	20.9	1.0	1.7	11.1	157.4	106.7	263.8	1.5	EE	(D)
Iowa		7	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Missouri		12	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.4	70.2
South Atlantic Division:														
Maryland		5	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Virginia		5	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
North Carolina		6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Florida	E3	40	5	.8	8.4	.4	.7	2.8	29.1	13.1	42.5	1.0	.5	17.0
East South Central Division:														
Tennessee		12	6	1.1	9.7	.9	1.6	6.3	75.9	22.4	97.3	2.2	.7	30.6
Alabama		3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas		1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E3	40	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	4.0
Mountain Division:														
Arizona		4	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California		114	31	5.3	50.8	3.6	7.1	27.3	260.5	143.0	403.9	11.2	4.6	268.4

Footnotes are on next page.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not collected. (Z) Less than 50 thousand dollars; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1--10 to 19 percent; E2--20 to 29 percent; E3--30 to 39 percent; E4--40 to 49 percent; E5--50 to 59 percent; E6--60 to 69 percent; E7--70 to 79 percent; E8--80 to 89 percent; E9--90 to 99 percent; E0--100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employement size range is indicated by one of the following symbols: AA--150 to 249 employees; BB--250 to 499 employees; CC--500 to 999 employees; EE--1,000 to 2,499 employees; FF--2,500 employees or more.

Table 3a. Summary Statistics for the Industry: 1977

(For explanation of terms, see appendix A)

Item	Soap and other detergents (SIC 2841)	Polishes and sanitation goods (SIC 2842)	Surface active agents (SIC 2843)	Toilet preparations (SIC 2844)
Primary product specialization ratio[1] ..... percent	84	76	81	95
Coverage ratio[2] ..... do..	89	79	55	87
All establishments ..... number..	635	1,018	175	693
With 1 to 19 employees ..... do..	410	781	91	501
With 20 to 99 employees ..... do..	161	192	70	96
With 100 or more employees ..... do..	64	45	14	96
All employees, average for year ..... 1,000..	32.1	22.0	6.5	50.9
Payroll for year, all employees ..... mil. dol..	521.6	274.1	101.7	627.9
Production workers:				
Average for year ..... 1,000..	20.5	14.1	3.7	32.8
March ..... do..	20.1	13.6	3.6	31.9
May ..... do..	20.4	13.8	3.7	32.1
August ..... do..	20.8	14.3	3.7	34.1
November ..... do..	20.6	14.3	3.8	33.0
Hours ..... millions..	41.0	27.2	7.7	62.9
January to March ..... do..	10.2	6.2	1.9	14.8
April to June ..... do..	10.2	6.8	2.0	15.4
July to September ..... do..	10.4	7.1	1.9	16.2
October to December ..... do..	10.2	7.0	1.9	16.4
Wages ..... mil. dol..	308.1	148.3	47.2	318.9
Cost of materials, etc ..... do..	2,817.9	1,478.5	602.6	2,059.4
Materials, parts, containers, etc., consumed ..... do..	2,519.9	1,173.6	542.0	1,708.2
Resales ..... do..	219.9	262.3	33.0	249.5
Fuels consumed ..... do..	43.2	7.7	18.4	9.6
Purchased electric energy ..... do..	23.4	10.2	7.8	17.1
Contract work ..... do..	11.5	24.7	1.4	75.0
Value of shipments, including resales ..... do..	5,671.4	3,136.2	943.5	6,557.2
Value of resales ..... do..	336.7	324.7	32.4	653.0
Value added by manufacture ..... do..	2,867.5	1,663.7	345.0	4,526.7
Manufacturers' inventories:				
Beginning of year ..... do..	616.7	263.1	106.7	712.0
Finished products ..... do..	310.4	132.4	58.4	304.6
Work in process ..... do..	70.0	15.2	6.0	51.1
Materials, supplies, fuel, etc ..... do..	236.3	115.6	42.3	356.2
End of year ..... do..	643.4	273.5	116.2	760.3
Finished products ..... do..	319.4	144.0	62.9	322.5
Work in process ..... do..	75.0	10.5	5.7	62.1
Materials, supplies, fuel, etc ..... do..	249.0	119.0	47.6	375.7
Capital expenditures for plant and equipment ..... do..	140.2	59.7	42.1	110.9
New capital expenditures ..... do..	134.9	51.8	40.9	105.6
New buildings and structures ..... do..	15.9	12.7	8.1	29.0
New machinery and equipment ..... do..	119.0	39.1	32.8	76.6
Used capital expenditures ..... do..	5.3	8.0	1.2	5.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not collected. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.
[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.
[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Soap and other detergents (SIC 2841)		Polishes and sanitation goods (SIC 2842)		Surface active agents (SIC 2843)		Toilet preparations (SIC 2844)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	54.8	1	3.7	12	1.2	14	3.3	7
Response coverage ratio[2] (percent)	75.6	(X)	60.6	(X)	60.3	(X)	88.0	(X)
Machinery	50.3	1	8.7	8	8.8	6	(9.4)	14
Response coverage ratio[2] (percent)	62.1	(X)	68.1	(X)	60.8	(X)	54.3	(X)
Cost of purchased communication services	63.9	1	6.0	9	(2.4)	20	11.6	5
Response coverage ratio[2] (percent)	68.2	(X)	70.8	(X)	62.7	(X)	79.7	(X)
Rental payments	16.7	7	14.9	8	4.6	14	28.8	4
Buildings and other structures	8.6	11	8.4	9	(1.7)	19	16.8	4
Machinery and equipment	8.0	8	(6.5)	15	(2.9)	17	12.0	7
Supplemental labor costs	117.9	1	45.5	4	15.4	8	119.5	1
Legal costs	38.8	2	20.4	3	6.3	9	53.5	2
Voluntary costs	79.1	2	25.1	5	9.1	8	66.0	2
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	336.5	2	167.2	4	66.2	6	340.6	2
New capital expenditures	17.4	14	12.2	10	12.4	12	30.2	8
Used capital expenditures	(5.2)	85	3.0	2	(.8)	47	2.9	2
Retirements	4.1	9	2.0	4	(1.9)	37	2.5	2
End of year	355.0	3	180.3	4	77.6	5	371.2	2
Machinery and equipment:								
Beginning of year	984.4	2	265.1	4	220.4	4	492.2	2
New capital expenditures	125.5	6	42.2	11	33.8	8	76.7	4
Automobiles, trucks, etc., for highway use[3]	(2.1)	(A)	(5.3)	(A)	(.6)	(A)	(1.0)	(A)
Computers and peripheral data processing equipment[3]	(.2)	(A)	(.6)	(A)	(.2)	(A)	(3.0)	(A)
All other[3]	(102.3)	20	(34.8)	63	(27.3)	73	(66.9)	30
New machinery and equipment, n.s.k.[4]	(21.0)	95	(1.5)	(A)	(5.7)	(A)	(5.8)	(A)
Used capital expenditures	4.0	4	4.2	6	(.1)	20	2.3	8
Retirements	26.3	2	13.9	14	(5.0)	21	18.4	1
End of year	1,088.1	1	297.6	5	249.3	4	552.8	2
Total gross value of depreciable assets:								
Beginning of year	1,321.0	1	432.3	3	286.6	4	832.8	2
New capital expenditures	143.0	7	54.4	10	46.2	9	106.9	4
Used capital expenditures	(9.6)	46	7.1	4	(1.0)	40	5.2	4
Retirements	30.3	2	15.8	12	(6.9)	24	20.9	1
End of year	1,443.2	1	478.0	3	326.9	4	924.0	2
Depreciation charges during 1977	73.7	2	29.7	6	22.4	3	(53.8)	2
Buildings and other structures	11.3	4	6.6	5	3.3	7	12.6	2
Machinery and equipment	62.4	2	23.1	7	19.1	4	41.2	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

(For explanation of terms, see appendix A)

Industry and employment size class[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2841, SOAP AND OTHER DETERGENTS											
Total	635	32.1	521.6	20.5	41.0	308.1	2,867.5	2,817.9	5,671.4	134.9	643.4
Establishments with an average of--											
1 to 4 employees E8	229	.3	5.1	.3	.5	3.1	23.6	22.3	45.3	1.2	5.2
5 to 9 employees E7	88	.6	8.2	.4	.7	4.6	37.3	36.9	74.4	1.4	8.6
10 to 19 employees E5	93	1.3	17.8	.8	1.6	9.3	80.6	87.1	167.1	3.9	17.8
20 to 49 employees	110	3.5	49.5	1.9	3.9	22.0	235.5	219.4	454.1	8.7	43.9
50 to 49 employees	51	3.6	48.3	2.0	3.7	20.1	201.7	200.4	400.8	7.0	37.1
100 to 249 employees	31	4.7	67.6	2.8	5.8	35.1	420.5	329.1	748.5	12.5	69.1
250 to 499 employees	19	6.5	110.7	4.5	9.2	72.7	658.8	708.7	1,353.4	38.3	157.1
500 to 999 employees	11	(11.6)	(214.5)	(7.9)	(15.7)	(141.1)	(1,209.7)	(1,213.9)	(2,427.7)	(61.8)	(304.7)
1,000 to 2,499 employees	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2] E0	296	1.3	20.0	.9	1.7	12.0	87.1	85.9	173.0	3.8	19.5
INDUSTRY 2842, POLISHES AND SANITATION GOODS											
Total	1,018	22.0	274.1	14.1	27.2	148.3	1,663.7	1,478.5	3,136.2	51.8	273.5
Establishments with an average of--											
1 to 4 employees E8	477	.7	9.3	.5	.8	4.4	42.4	39.9	82.7	1.2	7.3
5 to 9 employees E4	169	1.1	14.0	.7	1.3	6.6	50.0	47.8	97.6	2.5	9.5
10 to 19 employees E1	135	1.9	23.2	1.1	2.0	10.1	89.9	103.7	193.0	2.1	18.7
20 to 49 employees	139	4.2	50.7	2.5	4.8	23.8	203.4	258.3	460.3	10.6	41.1
50 to 99 employees	53	3.7	47.1	2.4	4.3	24.8	228.8	286.7	515.0	9.4	45.3
100 to 249 employees	32	5.0	61.2	3.5	6.9	37.5	542.4	418.0	957.9	(25.9)	72.3
250 to 499 employees	11	(5.4)	(68.6)	(3.5)	(7.0)	(41.1)	(506.8)	(324.0)	(829.7)	(D)	79.3
500 to 999 employees	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2] E0	450	1.0	12.1	.7	1.1	5.7	54.8	51.0	105.5	1.6	9.2
INDUSTRY 2843, SURFACE ACTIVE AGENTS											
Total	175	6.5	101.7	3.7	7.7	47.2	345.0	602.6	943.5	40.9	116.2
Establishments with an average of--											
1 to 4 employees E4	41	.1	1.3	.1	.1	.6	4.3	7.8	12.4	.4	1.2
5 to 9 employees E2	26	.2	3.2	.1	.2	1.2	8.7	16.4	25.0	.7	2.4
10 to 19 employees E1	24	.4	5.8	.2	.4	2.2	17.2	27.2	44.1	1.6	4.8
20 to 49 employees	42	1.5	23.3	.7	1.6	9.5	81.0	144.1	223.7	5.4	24.0
50 to 99 employees	28	1.9	29.0	1.0	2.1	12.1	114.3	177.8	289.0	(32.8)	30.8
100 to 249 employees	13	(2.5)	(39.0)	(1.6)	(3.3)	(21.7)	(119.4)	(229.4)	(349.3)	(D)	(53.0)
250 to 499 employees	-	-	-	-	-	-	-	-	-	-	-
500 to 999 employees	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2] E0	39	.1	2.0	.1	.1	.8	4.7	8.4	13.1	.4	1.6
INDUSTRY 2844, TOILET PREPARATIONS											
Total	693	50.9	627.9	32.8	62.9	318.9	4,526.7	2,059.4	6,557.2	105.6	760.3
Establishments with an average of--											
1 to 4 employees E8	334	.4	5.3	.4	.6	2.7	26.1	13.6	41.8	.5	4.8
5 to 9 employees E8	88	.6	7.1	.4	.8	3.7	37.6	17.6	55.3	.7	6.2
10 to 19 employees E6	79	1.1	13.1	.7	1.3	6.1	61.6	40.2	101.8	1.6	12.0
20 to 49 employees E2	63	2.1	24.3	1.4	2.5	10.6	83.9	67.7	152.9	4.6	19.0
50 to 99 employees	33	2.3	24.5	1.5	3.0	11.7	92.7	71.3	163.8	2.3	30.8
100 to 249 employees	40	6.0	64.3	3.8	7.2	33.7	478.9	243.0	718.9	8.6	92.3
250 to 499 employees	22	8.5	107.1	5.4	10.5	56.9	757.9	400.9	1,149.8	17.8	133.0
500 to 999 employees	29	21.0	270.0	13.7	26.1	137.2	2,301.0	818.0	3,100.0	45.6	313.2
1,000 to 2,499 employees	4	(8.8)	(112.1)	(5.7)	(10.9)	(56.2)	(687.2)	(387.0)	(1,073.0)	(23.8)	(148.9)
2,500 or more employees	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2] E0	401	1.5	18.8	1.1	2.0	9.5	98.1	46.5	144.6	1.7	16.3

(D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available.
(Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1--10 to 19 percent; E2--20 to 29 percent; E3--30 to 39 percent; E4--40 to 49 percent; E5--50 to 59 percent; E6--60 to 69 percent; E7--70 to 79 percent; E8--80 to 89 percent; E9--90 to 99 percent; E0--100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied to other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

(Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary; excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A)

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2841	Soap and other detergents:										
	Entire industry	635	32.1	521.6	20.5	41.0	308.1	2,867.5	2,817.9	5,671.4	134.9
	Establishments with 75 percent specialization or more	551	22.9	384.2	15.2	30.5	236.4	2,180.2	2,238.0	4,403.7	99.4
28411	Soap and detergents, nonhousehold:										
	Establishments with this product class primary	177	9.4	134.2	4.6	9.1	52.5	695.3	510.6	1,201.7	23.3
	Establishments with 75 percent specialization or more	99	3.9	58.9	1.7	3.3	18.3	212.9	217.2	429.0	9.9
28412	Household detergents:										
	Establishments with this product class primary	55	17.5	314.3	12.3	24.8	210.3	1,823.1	2,013.9	3,831.2	95.0
	Establishments with 75 percent specialization or more	23	5.0	87.9	3.8	7.6	64.9	562.8	582.6	1,140.2	15.3
28413	Soaps, except specialty cleaners, household:										
	Establishments with this product class primary	14	2.2	30.6	1.7	3.3	21.3	170.6	114.2	281.5	7.2
	Establishments with 75 percent specialization or more	11	1.9	27.0	1.5	2.8	19.1	163.1	106.3	266.3	7.0
28414	Glycerin:										
	Establishments with this product class primary	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2842	Polishes and sanitation goods:										
	Entire industry	1,018	22.0	274.1	14.1	27.2	148.3	1,663.7	1,478.5	3,136.2	51.8
	Establishments with 75 percent specialization or more	893	12.9	154.1	8.1	15.3	79.8	857.9	821.0	1,671.0	29.2
28422	Household bleaches:										
	Establishments with this product class primary	41	1.7	22.3	1.2	2.6	15.0	242.8	299.5	540.8	5.4
	Establishments with 75 percent specialization or more	25	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28423	Specialty cleaning and sanitation products:										
	Establishments with this product class primary	227	11.7	139.3	8.0	15.5	80.8	834.4	722.3	1,554.0	28.5
	Establishments with 75 percent specialization or more	149	4.6	54.7	3.2	6.2	30.2	351.7	261.0	609.6	13.7
28424	Polishing preparations and related products:										
	Establishments with this product class primary	99	4.7	64.5	2.6	4.9	31.5	404.2	268.5	669.8	10.5
	Establishments with 75 percent specialization or more	58	1.9	24.5	1.0	1.9	11.3	80.6	72.7	150.0	3.3
2843	Surface active agents:										
	Entire industry	175	6.5	101.7	3.7	7.7	47.2	345.0	602.6	943.5	40.9
	Establishments with 75 percent specialization or more	150	4.2	66.2	2.3	4.7	28.1	221.3	359.5	576.7	19.4
2844	Toilet preparations:										
	Entire industry	693	50.9	627.9	32.8	62.9	318.9	4,526.7	2,059.4	6,557.2	105.6
	Establishments with 75 percent specialization or more	647	44.9	554.3	29.1	55.8	283.6	4,233.4	1,819.0	6,020.6	91.4
28441	Shaving preparations:										
	Establishments with this product class primary	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28442	Perfumes, toilet water, and colognes:										
	Establishments with this product class primary	38	5.6	81.9	3.5	7.2	39.4	735.7	266.4	999.3	11.1
	Establishments with 75 percent specialization or more	21	1.4	19.9	.8	1.5	7.8	105.3	62.7	168.2	1.2
28443	Hair preparations, including shampoos:										
	Establishments with this product class primary	64	12.3	162.6	6.2	11.7	59.1	868.2	603.4	1,470.5	33.3
	Establishments with 75 percent specialization or more	41	8.7	113.7	4.2	7.5	42.7	754.1	458.8	1,209.4	27.8
28444	Dentifrices, mouthwashes, gargles, and rinses:										
	Establishments with this product class primary	6	2.3	33.9	1.3	2.4	18.7	465.9	214.3	676.1	6.8
	Establishments with 75 percent specialization or more	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28445	Other cosmetics and toilet preparations:										
	Establishments with this product class primary	81	26.1	297.6	18.4	35.2	172.8	2,201.2	855.9	3,032.7	49.1
	Establishments with 75 percent specialization or more	52	10.1	102.2	6.6	12.9	57.0	525.2	238.8	757.6	20.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified.
(S) Withheld because estimate did not meet publication standards. (X) Not collected. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. Extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2841	Soap and other detergents									
	1977	5,671.4	4,471.9	856.2	343.3	84	4,999.6	4,471.9	527.7	89
	1972	3,394.4	2,579.5	537.2	277.7	83	2,851.8	2,579.5	272.3	90
	1967	2,593.4	1,990.2	405.7	197.5	83	2,200.8	1,990.2	210.6	90
2842	Polishes and sanitation goods									
	1977	3,136.2	2,118.0	682.5	335.7	76	2,668.5	2,118.0	550.5	79
	1972	1,867.6	1,425.1	331.0	111.5	81	r1,724.2	1,425.1	299.1	83
	1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
2843	Surface active agents									
	1977	943.5	733.4	176.0	34.1	81	1,341.0	733.4	607.6	55
	1972	462.6	349.9	80.3	32.4	81	580.7	349.9	230.8	60
	1967	294.2	219.1	59.2	15.9	79	403.2	219.1	184.1	54
2844	Toilet preparations									
	1977	6,557.2	5,574.9	303.0	679.3	95	6,393.5	5,574.9	818.6	87
	1972	4,057.3	3,635.7	248.6	173.0	94	4,247.1	3,635.7	611.4	86
	1967	2,515.6	2,247.3	137.9	130.4	94	2,794.2	2,247.3	546.9	80

(NA) Not available. rRevised.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977

(Millions of dollars. This table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product group that have at least $2 million in shipments from establishments classified in one of the industries included in this chapter are shown. Read across to determine where the products of the industries in this chapter are produced. To the extent that some of the primary products are made in industries not included in this chapter, the value of such shipments is shown in the "All other industries" column. The specified "All other industries" are listed at the end of the table if they account for more than $5 million of the products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry, product class, and miscellaneous receipts	All industries	Soap and other detergents (SIC 2841)	Polishes and sanitation goods (SIC 2842)	Surface active agents (SIC 2843)	Toilet preparations (SIC 2844)	All other industries
	Total value of shipments	(X)	5,671.4	3,136.2	943.5	6,557.2	(X)
	Primary products	(X)	4,471.9	2,118.0	733.4	5,574.9	(X)
	Secondary products	(X)	856.2	682.5	176.0	303.0	(X)
	Miscellaneous receipts	(X)	343.3	335.7	34.1	679.3	(X)
2841	Soap and other detergents	4,999.6	4,471.9	327.1	15.3	87.5	97.8
28411	Soap and detergents, nonhousehold	1,005.8	897.2	71.5	9.9	(D)	(D)
28412	Household detergents	2,817.2	2,553.9	233.6	(D)	(D)	21.6
28413	Soap, except specialty cleaner, household	707.0	597.5	(D)	-	77.1	(D)
28414	Glycerin	101.0	73.2	-	(D)	(D)	23.5
28410	Soap and detergents, n.s.k.	368.6	350.1	(D)	(D)	-	12.8
2842	Polishes and sanitation goods	2,668.5	246.3	2,118.0	17.7	25.1	261.4
28422	Household bleaches	353.8	(D)	319.3	-	-	(D)
28423	Specialty cleaning and sanitation products	1,478.2	178.7	1,062.1	(D)	(D)	204.1
28424	Polishing preparations and related products	505.7	37.7	417.5	(D)	(D)	41.1
28420	Polishes and sanitation goods, n.s.k.	330.8	(D)	319.1	-	(D)	(D)
2843	Surface active agents	1,341.0	52.3	30.0	733.4	-	525.3
28430	Surface active agents, finishes, and assistants	1,341.0	52.3	30.0	733.4	-	525.3
2844	Toilet preparations	6,393.5	254.7	87.1	(D)	5,574.9	(D)
28441	Shaving preparations	268.2	(D)	(D)	-	195.3	41.0
28442	Perfumes, toilet water, and colognes	1,096.8	(D)	(D)	-	1,033.3	(D)
28443	Hair preparations, including shampoos	1,474.9	(D)	25.7	(D)	1,399.3	37.9
28444	Dentifrices, mouthwashes, gargles, and rinses	659.6	(D)	(D)	-	414.5	(D)
28445	Other cosmetics and toilet preparations	2,597.4	(D)	39.2	-	2,247.4	(D)
28440	Toilet preparations, n.s.k.	296.6	(D)	(D)	-	285.1	10.1
	Other shipments by 4-digit product group:						
2047	Dog, cat, and other pet food	(X)	-	-	-	(D)	(X)
2076	Vegetable oil mill products, n.e.c.	(X)	(D)	(D)	-	(D)	(X)
2077	Animal and marine fats and oils	(X)	(D)	(D)	-	(D)	(X)
2087	Flavoring extracts and sirups, n.e.c.	(X)	-	-	-	23.2	(X)
2392	Housefurnishings, n.e.c.	(X)	-	(D)	-	-	(X)
2647	Sanitary paper products	(X)	-	(D)	-	-	(X)
2751	Commercial printing, letterpress	(X)	(D)	-	-	-	(X)
2812	Alkalies and chlorine	(X)	(D)	(D)	-	-	(X)
2819	Industrial inorganic chemicals, n.e.c.	(X)	12.7	(D)	(D)	-	(X)
2821	Plastics materials and resins	(X)	(D)	(D)	(D)	-	(X)
2831	Biological products	(X)	-	-	-	(D)	(X)
2834	Pharmaceutical preparations	(X)	(D)	(D)	-	91.1	(X)
2851	Paints and allied products	(X)	(D)	12.8	(D)	-	(X)
2865	Cyclic crudes and intermediates	(X)	(D)	-	(D)	-	(X)
2869	Industrial organic chemicals, n.e.c.	(X)	74.4	(D)	59.9	(D)	(X)
2879	Agricultural chemicals, n.e.c.	(X)	(D)	111.9	-	(D)	(X)
2891	Adhesives and sealants	(X)	(D)	7.0	(D)	-	(X)
2899	Chemical preparations, n.e.c.	(X)	91.3	33.4	21.5	6.4	(X)
2992	Lubricating oils and greases	(X)	22.9	5.6	1.2	-	(X)
3079	Miscellaneous plastics products	(X)	-	(D)	(D)	(D)	(X)
3589	Service industry machinery, n.e.c.	(X)	(D)	(D)	-	-	(X)
3842	Surgical appliances and supplies	(X)	-	-	-	(D)	(X)
3991	Brooms and brushes	(X)	(D)	(D)	-	(D)	(X)
3999	Manufacturing industries, n.e.c.	(X)	(D)	(D)	-	(D)	(X)
	Miscellaneous receipts:						
93000	Contract work	(X)	2.0	7.1	1.3	18.1	(X)
99989	Resales	(X)	336.7	324.7	32.4	653.0	(X)
99980	Other miscellaneous receipts	(X)	4.7	3.9	.4	8.3	(X)

1977 product code	Industry, product class, and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
2841	2079 Shortening and cooking oils	(D)
	2819 Industrial inorganic chemicals, n.e.c.	(D)
	2851 Paints and allied products	(D)
	2879 Agricultural chemicals, n.e.c.	(D)
	2899 Chemical preparations, n.e.c.	26.8
	2046 Wet corn milling	(D)
2842	2647 Sanitary paper products	(D)
	2812 Alkalies and chlorine	6.0
	2834 Pharmaceutical preparations	(D)
	2851 Paints and allied products	(D)
	2869 Industrial organic chemicals, n.e.c.	(D)
	2879 Agricultural chemicals, n.e.c.	(D)
	2891 Adhesives and sealants	5.4
	2899 Chemical preparations, n.e.c.	18.6
	3291 Abrasive products	(D)
	3991 Brooms and brushes	(D)

1977 product code	Industry, product class, and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:--Con.	
2843	2087 Flavoring extracts and sirups, n.e.c.	5.9
	2812 Alkalies and chlorine	(D)
	2819 Industrial inorganic chemicals, n.e.c.	(D)
	2821 Plastics materials and resins	42.1
	2823 Cellulosic manmade fibers	(D)
	2833 Medicinals and botanicals	(D)
	2865 Cyclic crudes and intermediates	41.1
	2869 Industrial organic chemicals, n.e.c.	251.5
	2899 Chemical preparations, n.e.c.	69.9
	2911 Petroleum refining	37.9
	2992 Lubricating oils and greases	(D)
2844	2067 Chewing gum	(D)
	2834 Pharmaceutical preparations	357.2
	3842 Surgical appliances and supplies	(D)
	3961 Costume jewelry	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (X) Not collected. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Basis	Unit of measure	1977			1972	
				Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
					Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	SOAP AND OTHER DETERGENTS							
2841- --	Total	.....	.....	(NA)	(X)	4,999.6	(X)	2,851.8
28411 --	Soap and detergents, nonhousehold[3]	.....	.....	(NA)	(X)	1,005.8	(X)	652.5
	Soap, except specialty cleaners, nonhousehold (bulk products and products sold in containers holding over 25 pounds or over 1 gallon; for industrial, institutional, or commercial use regardless of package size):							
28411 12	Chips, flakes, granulated, powdered, and sprayed, including washing powders	.....	Million lb.	38	*150.4	44.5	180.5	27.5
28411 14	Liquid (potash and other, excluding shampoos)	.....	Million gal.	41	*13.1	52.1	(S)	23.0
28411 19	Other soap, nonhousehold, including mechanics' hand soap	.....	Million lb.	20	*94.6	43.0	108.0	26.3
	Alkaline detergents, nonhousehold (bulk products and products sold in containers holding over 25 pounds or over 1 gallon; for industrial, institutional, or commercial use regardless of package size):							
	Machine dishwashing compounds:							
28411 21	Liquid	Finished weight.	Million gal.	32	*13.0	40.1	(S)	29.3
28411 23	Dry		Million lb.	24	197.2	80.9	438.5	104.8
	Other alkaline detergents, nonhousehold:							
28411 25	Liquid		Million gal.	94	87.2	149.8	(S)	55.3
	Dry:							
28411 26	Hard surface cleaners		Million lb.	49	334.7	101.2	629.4	111.5
28411 28	Other alkaline detergents		Million lb.	26	*88.2	27.8		
	Synthetic organic detergents, nonhousehold (bulk products and products sold in containers holding over 25 pounds or over 1 gallon; for industrial, institutional, or commercial use regardless of package size):							
	Dry (powders):							
28411 41	Anionic base		Million lb.	34	184.4	64.2	207.1	42.2
28411 42	Cationic and amphoteric			4	*139.1	40.1	73.2	13.1
28411 44	Nonionic base		Million lb.	21				
	Liquid:							
28411 45	Anionic base		Million gal.	46	60.8	108.1	73.2	44.7
28411 46	Cationic and amphoteric			13	6.1	7.1	31.1	62.2
28411 49	Nonionic base		Million gal.	35	**58.7	60.1		
28411 55	Scouring cleansers with or without abrasives		Million lb.	6	41.4	13.7	53.3	7.2
	Acid-type cleaners, containing an acid and/or wetting agent, and/or inorganic fillers:							
	Dairy, farm, and food plant cleaners, sanitizers, etc:							
28411 61	Halogenated, dry		Million lb.	9	34.0	9.5	15.5	3.4
28411 63	Nonhalogenated, dry		Million lb.	8	*15.1	5.9	18.6	3.6
28411 65	Halogenated, liquid		Million gal.	17	*4.2	13.7	3.6	4.4
28411 67	Nonhalogenated, liquid		Million gal.	23	9.4	29.7	7.0	12.8
	Metal cleaners:							
28411 73	Dry		Million lb.	17	**47.6	16.3	54.7	10.4
28411 77	Liquid		Million gal.	31	9.6	25.9	(S)	31.6
28411 79	All other	Finished weight.	Million lb.	14	(S)	19.8	36.0	10.3
28411 00	Soap and detergents, nonhousehold, n.s.k.	.....	.....	(NA)	(X)	52.3	(X)	29.0
28412 --	Detergents, household[3]	.....	.....	(NA)	(X)	2,817.2	(X)	1,633.9
	Alkaline detergents, household (products sold in containers holding 25 pounds or less and 1 gallon or less, for use by family units):							
	Machine dishwashing compounds:							
28412 11	Liquid	Finished weight.	Million gal.	6	20.3	10.1	4.8	1.4
28412 13	Dry (powders)		Million lb.	15	467.1	176.5	330.2	85.5
	Other alkaline detergents, household:							
28412 15	Liquid		Million gal.	14	28.9	117.3	(S)	r71.8
28412 19	Dry (powders)		Million lb.	8	134.5	40.8		
	Synthetic organic detergents, household (products sold in containers holding 25 pounds or less and 1 gallon or less; for use by family units):							
	Dry (solid or powders):							
28412 21	Light-duty	Finished weight.	Million lb.	13	194.0	129.8	197.1	78.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Basis	Unit of measure	1977			1972	
				Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
					Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
2841- --	SOAP AND OTHER DETERGENTS--Con.							
28412 --	Detergents, household--Con.							
	Synthetic organic detergents, household (products sold in containers holding 25 pounds or less and 1 gallon or less; for use by family units)--Con.							
	Heavy-duty:							
28412 24	Phosphate based	Finished weight.	Million lb.	16	2,709.3	1,009.2	3,445.9	808.1
28412 26	Phosphate free			16	860.7	303.8	266.4	44.8
28412 28	Hard surface cleaners		Million lb.	3	(D)	(D)	7.8	2.0
	Liquid, excluding shampoos:							
28412 31	Light-duty		Million gal.	21	126.7	422.0	(S)	299.0
	Heavy-duty:							
28412 33	Phosphate based			6	49.8	157.9	(D)	(D)
28412 37	Phosphate free			15	41.6	151.7		
	Hard surface cleaners, including general purpose cleaners and degreasers:							
28412 41	Aerosol and spray type, including refills for refillable containers		Million gal.	8	(S)	10.5	(S)	.7
28412 43	Other liquid		Million lb.	12	16.9	55.8	(D)	(D)
28412 53	Scouring cleansers, with or without abrasives			12	462.0	114.8	(D)	(D)
28412 61	Presoaks	Finished weight.	Million lb.	8	187.7	95.3	(S)	r52.0
28412 00	Detergents, household, n.s.k	.....	.....	(NA)	(X)	(D)	(X)	7.6
28413 --	Soap, except specialty cleaners, household[3]	.....	.....	(NA)	(X)	707.0	(X)	412.0
	Soap, except specialty cleaners, household (products sold in containers, holding 25 pounds or less and 1 gallon or less; for use by family units):							
28413 11	Toilet soap	.....	Million lb.	28	840.6	614.5	768.2	r338.8
28413 22	Chips, flakes, granulated, powdered, and sprayed, including washing powders	.....	Million lb.	8	71.5	41.1	152.2	45.2
28413 51	Medical and medicated soap (containing medicinal or germicidal additives of therapeutic value, but not soap containing germicidal or other additives only as a deodorant), bars, liquid, and paste	.....	.....	5	(S)	16.7	(X)	(4)
28413 61	Mechanics' hand soap, except waterless	.....	Million lb.	2			(S)	r.6
28413 98	Other soap, household, including bars, other than toilet	.....	Million lb.	9	(S)	26.5	(S)	417.6
28413 00	Soap, except specialty cleaners, household, n.s.k.	.....	.....	(NA)	(X)	8.2	(X)	9.7
28414 --	Glycerin, natural[5] [6]	.....	.....	(NA)	(X)	101.0	(X)	50.4
28414 11	Crude, 100% basis	.....	Million lb.	8	91.0	37.1	60.6	8.5
28414 31	High-gravity, dynamite, and yellow distilled, 100% basis	.....		5	87.2	40.2	25.4	5.2
28414 51	Chemically pure, 100% basis	.....	Million lb.	7	52.8	22.8	127.9	27.1
28414 00	Glycerin, natural, n.s.k	.....	.....	(NA)	(X)	.9	(X)	9.6
28410 00	Soap and other detergents, n.s.k., typically for establishments with 5 employees or more (see note)	.....	.....	(NA)	(X)	195.6	(X)	71.6
28410 02	Soap and other detergents, n.s.k., typically for establishments with less than 5 employees (see note)	.....	.....	(NA)	(X)	173.0	(X)	31.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[2]	Value (million dollars)		Quantity	Value (million dollars)
	POLISHES AND SANITATION GOODS								
2842- --	Total		(NA)	(X)	(X)	2,668.5	(X)	(X)	r1,724.2
28422 --	Household bleaches		(NA)	(X)	(X)	353.8	(X)	(X)	235.5
28422 43	Household liquid bleaches (sodium hypochlorite, etc.):								
	As reported in the census of manufactures		33	(X)	(X)	266.0	(X)	(X)	188.4
	As reported in Current Industrial Reports M28A		(NA)	(X)	(X)	272.7	(X)	(X)	191.6
28422 53	Household dry bleaches (inorganic base):								
	As reported in the census of manufactures		9	(X)	(X)	79.8	(X)	(X)	38.6
	As reported in Current Industrial Reports M28A		(NA)	(X)	(X)	78.9	(X)	(X)	37.0
28422 00	Household bleaches, n.s.k.		(NA)	(X)	(X)	8.0	(X)	(X)	8.5
28423 --	Specialty cleaning and sanitation products		(NA)	(X)	(X)	1,478.2	(X)	(X)	r887.3
28423 11	Glass window cleaning preparations		32	(X)	(X)	73.3	(X)	(X)	46.9
28423 21	Oven cleaners		16	(X)	(X)	40.8	(X)	(X)	19.5
28423 31	Toilet bowl cleaners and drain pipe solvents		41	(X)	(X)	218.5	(X)	(X)	r223.6
28423 32	Disinfectants, for uses other than agricultural		59	(X)	(X)	106.6	(X)	(X)	r65.0
28423 41	Wallpaper, window shade, and wall cleaners		6	(X)	(X)	(D)	(X)	(X)	8.9
28423 51	Rug and upholstery cleaners, consumer type preparations		28	(X)	(X)	52.8	(X)	(X)	33.7
28423 71	Household ammonia		16	(X)	(X)	25.7	(X)	(X)	14.8
	Deodorants, nonpersonal:								
28423 81	Aerosol type		20	(X)	(X)	142.8	(X)	(X)	71.7
28423 85	Other		30	(X)	(X)	82.7	(X)	(X)	30.7
28423 93	Dry cleaning spotting preparations (liquid)		10	(X)	(X)	20.0	(X)	(X)	5.7
	Household laundry and ironing aids:								
28423 94	Fabric softeners and rinses		31	(X)	(X)	323.0	(X)	(X)	113.7
	Laundry starch preparations, including permanent types (resins, starch, etc.)								
28423 95	Aerosol and other spray types		9	(X)	(X)	42.5	(X)	(X)	43.1
28423 96	Other liquid		4	(X)	(X)	1.4	(X)	(X)	11.0
28423 97	Dry		3	(X)	(X)	(D)			
28423 90	Ironing aids		1						
28423 98	Other specialty detergents, including sweeping compounds and waterless hand cleaners		68	(X)	(X)	183.5	(X)	(X)	r157.5
28423 00	Specialty cleaning and sanitation products, n.s.k.		(NA)	(X)	(X)	121.1	(X)	(X)	41.5
28424 --	Polishing preparations and related products		(NA)	(X)	(X)	505.7	(X)	(X)	391.8
28424 11	Automobile body polishes and cleaners		23	(X)	(X)	66.7	(X)	(X)	39.3
28424 15	Furniture polishes and cleaners		22	(X)	(X)	103.5	(X)	(X)	104.4
	Floor polish:								
28424 21	Water emulsion	Million gal	57	(S)	36.8	145.2	(S)	(S)	r127.5
28424 23	Liquid (other than water emulsion)	Million gal	19	(S)	(S)	28.5	(S)	(S)	r16.2
28424 25	Other than liquid form, including cake and paste	Million lb	6	(S)	*7.5	5.9	(S)	(S)	r7.8
	Shoe polishes and cleaners:								
28424 42	Liquid	Million gal	8	(S)	(S)	16.2	(S)	(S)	10.8
28424 44	Paste and cake	Million lb	6	(S)	(S)	17.1	(S)	(S)	18.5
	Leather dressings and finishes, excluding shoe polish:								
28424 61	Leather blackings and stains	Million lb	4	(S)	**3.7	4.1	(S)	(S)	r3.8
28424 65	Other leather dressings and finishes	Million lb	15	(S)	**43.3	29.2	(S)	(S)	r26.5
28424 98	Related products, including metal polish and polishing cloths, and papers		35	(X)	(X)	55.9	(X)	(X)	14.2
28424 00	Polishing preparations and related products, n.s.k.		(NA)	(X)	(X)	33.4	(X)	(X)	22.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[2]	Value (million dollars)		Quantity	Value (million dollars)
2842- --	POLISHES AND SANITATION GOODS--Con.								
28420 00	Polishes and sanitation goods, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	225.3	(X)	(X)	139.6
28420 02	Polishes and sanitation goods, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	105.5	(X)	(X)	70.0
	SURFACE ACTIVE AGENTS								
2843- --	Total	.....	(NA)	(X)	(X)	1,341.0	(X)	(X)	580.7
28430 --	Surface active agents, finishing agents and assistants:								
	Assistants and finishes, textile and leather, except tanning agents:								
	Assistants:								
28430 31	Textile	Million lb.	30	213.6	214.3	67.0	(S)	217.5	57.1
28430 35	Leather	Million lb.	10	(S)	**49.7	13.7	(S)	217.5	57.1
	Finishes:								
28430 61	Textile	Million lb.	39	(S)	**244.9	78.6	(S)	473.8	96.7
28430 65	Leather	Million lb.	7	(S)	(S)	13.1	(S)	473.8	96.7
28430 85	Bulk surface active agents, (including all amphoteric, anionic, cationic, and nonionic bulk surface active agents that reduce the surface tension of water or other solvents and are used chiefly as detergents, dispersing agents, emulsifiers, foaming agents, or wetting agents in either aqueous or nonaqueous systems, but excluding surface active agents produced or purchased and sold as active ingredients in formulated products)[7]	.....	116	(X)	(X)	1,071.3	(X)	(X)	364.8
28430 00	Surface active agents, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	84.2	(X)	(X)	52.5
28430 02	Surface active agents, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	13.1	(X)	(X)	9.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	TOILET PREPARATIONS			
2844- --	Total	(NA)	6,393.5	4,247.1
28441 --	Shaving preparations	(NA)	268.2	250.7
	Shaving soap and cream:			
28441 37	Aerosols	16	80.4	74.3
28441 39	Other shaving soap and cream, including tubes, jars, stick, powder, or cake	13	15.8	6.3
28441 56	Aftershave preparations (all forms)	24	153.5	155.9
28441 59	Other shaving preparations, including preshave preparations and styptics	10	17.2	9.1
28441 00	Shaving preparations, n.s.k	(NA)	1.3	5.1
28442 --	Perfumes, toilet water, and colognes	(NA)	1,096.8	677.0
28442 11	Perfume oil mixtures and blends	33	233.1	
28442 23	Perfumes (liquid and solid)	25	131.2	667.5
28442 32	Toilet water and colognes (liquid and solid)	48	719.0	
28442 00	Perfumes, toilet water, and colognes, n.s.k	(NA)	13.5	9.5
28443 --	Hair preparations, including shampoos	(NA)	1,474.9	1,065.1
	Shampoos, including products with additives for tints, coloring, or dandruff removal:			
	Soap (all forms):			
28443 11	Professional	9	9.6	
28443 12	Consumer use	17	77.5	
	Synthetic organic detergents:			
	Liquid:			
28443 14	Professional	23	29.2	321.4
28443 15	Consumer use	43	377.3	
	Creams and gels:			
28443 17	Professional	5	3.0	
28443 19	Consumer use	8	(D)	
	Hair tonics, including hair and scalp conditioners:			
28443 20	Professional	20	37.5	r115.5
28443 22	Consumer use	25	143.9	
	Perms:			
28443 36	Home (complete and refill)	8	40.0	19.1
28443 39	Commercial	17	48.5	28.8
28443 41	Hair dressings, including brilliantines, creams, and pomades	11	28.2	
	Hair coloring preparations (bleaches, dyes, rinses, tints, etc.):			290.8
28443 52	Professional	11	52.6	
28443 53	Consumer use	12	(D)	
	Hair spray:			
28443 63	Aerosol	20	172.4	227.6
28443 64	Non-aerosol	20	83.8	(8)
28443 65	Hair rinses, excluding color rinses	11	15.8	r17.7
28443 98	Other hair preparations, including heat setting wave solutions	18	32.1	826.0
28443 00	Hair preparations, n.s.k	(NA)	30.9	18.3
28444 --	Dentifrices, including mouthwashes, gargles, and rinses	(NA)	659.6	484.6
28444 21	Toothpaste, including aerosols, and tooth powder	13	451.8	295.5
28444 51	Denture cleaner	3	(D)	(9)
28444 73	Mouthwashes and rinses, excluding antiseptic mouthwashes and gargles	12	100.1	118.9
28444 75	Breath fresheners, aerosol and liquid	7	(D)	
28444 98	Other oral hygiene products, including dental floss and dental adhesives, but excluding tooth brushes and tooth picks	4	(D)	968.9
28444 00	Dentifrices, mouthwashes, and related products, n.s.k	(NA)	(D)	1.3
28445 --	Other cosmetics and toilet preparations	(NA)	2,597.4	1,673.6
	Creams, excluding shaving, hair, and deodorant:			
28445 11	Cleansing creams	24	89.9	39.3
28445 12	Foundation creams	18	72.3	31.5
28445 13	Lubricating creams, including hormone creams	19	88.6	74.8
28445 14	Other creams	15	90.1	84.9
	Lotions and oils, excluding hair, aftershave, and bath:			
28445 15	Suntan and sunscreens, including oils	17	63.2	45.3
28445 16	Cleansing lotions	20	61.3	41.5
28445 17	Cosmetic oils, including baby oils, but excluding suntan oils	11	33.0	r37.1
28445 18	Hand lotions	35	161.3	r98.6
28445 19	Other lotions and oils, including petroleum jellies, but excluding hair, aftershave, and bath oils	22	53.1	27.3
28445 21	Lip preparations (lipstick, lip gloss, etc.)	34	203.3	111.3
28445 22	Blushers (rouges), excluding lip rouge	28	72.0	23.5
28445 23	Eye preparations (mascara, eye shadow, eye liners, eye creams, etc.)	31	242.5	152.0
	Deodorant (personal):			
	Underarm:			
28445 27	Aerosol and spray type	25	311.7	
28445 28	Liquid, cream, roll-on, etc	24	210.5	373.1
28445 29	Feminine hygiene deodorants, all types	7	25.6	
	Manicuring preparations:			
28445 31	Nail lacquers and enamels	27	116.3	39.3

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
2844- --	TOILET PREPARATIONS--Con.			
28445 --	Other cosmetics and toilet preparations--Con.			
	Manicuring preparations--Con.			
28445 33	Nail lacquer and enamel removers	9	23.1	26.9
28445 39	Other manicuring preparations	7	22.8	
	Powder:			
28445 41	Talcum and toilet powder	26	233.7	121.1
28445 43	Face powder	22	62.7	41.3
28445 45	Liquid and compact, for wet application	8	31.4	20.6
28445 48	Other powder, including foot powder (cream, sachet, and paste)	11	13.2	16.0
28445 55	Premoistened towelettes, including wipes for babies	5	22.2	([10])
28445 61	Bath salts, tablets, oils, and bubble baths	27	120.1	155.4
28445 91	Depilatories	5	10.9	[10]65.9
28445 98	Other cosmetics and toiletries	17	116.1	
28445 00	Other cosmetics and toilet preparations, n.s.k.	(NA)	46.5	46.8
28440 00	Toilet preparations, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	152.0	65.7
28440 02	Toilet preparations, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	144.6	30.3

Note: In 1977 Census of Manufactures, shipments data for establishments of small companies, typically those with fewer than 5 employees, were estimated from administrative records data rather than collected from respondents. These shipments figures (discussed in appendix A) are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded to appropriate product class (5 digits) followed by "00," or in some cases to appropriate industry (4 digits) followed by "0 00."

(D) Withheld to avoid disclosing operations of individual companies. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not collected. (NA) Not available. n.s.k. Not specified by kind.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Definitions of specified products:

Alkaline detergents--Mixtures designed primarily for cleaning hard surfaces such as dishes, floors, walls, counters, vehicles, appliances, etc.

Soap--Products, including combinations of synthetic organic surface active agents alkaline detergents, containing more than 25 percent anhydrous soap.

Synthetic organic detergents--Mixtures containing one or more of the following compounds: Soap, alkaline detergents, synthetic organic surface active agents, sequestrants, etc., designed primarily for laundry use or for hand dishwashing.

Heavy-duty phosphate-based detergents--Detergent products for laundry applications with a substantial phosphate builder.

Heavy-duty phosphate-free detergents--Detergent products for laundry applications containing alkaline compounds, but excluding phosphate builders.

Light-duty detergents--Detergent products for hand dishwashing and for fine fabrics with little or no phosphate builder.

Presoaks--Products containing essentially one or more of the following ingredients: Alkaline compounds, synthetic organic surface active agents, soap, and soil releasing agents such as (but not confined to) protease, amylase, and liposes (enzymes).

[4]For 1972, product codes 28413 51 and 28413 98 were combined to avoid disclosing operations of individual companies.

[5]Data on quantities of glycerine (synthetic and natural) produced are shown in Current Industrial Reports M20K, Fats and Oils--Production, Consumption, and Factory and Warehouse Stocks.

[6]For synthetic glycerin, quantities produced and quantities and values shipped are shown in U.S. International Trade Commission's annual report, Synthetic Organic Chemicals, United States Production and Sales.

[7]For quantity of production and quantity and value of sales of synthetic organic chemicals included in this grouping, see U.S. Tariff Commission's Annual Report, "Synthetic Organic Chemicals, United States Production and Sales," for 1977 and 1972.

[8]For 1972, product code 28443 64 was included with product code 28443 98.

[9]For 1972, product code 28444 51 was included with product code 28444 98.

[10]For 1972, product code 28445 55 was included with product code 28445 98.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments (million dollars)	
	1977	1972
28411, SOAP AND DETERGENTS, NONHOUSEHOLD		
United States	1,005.8	652.5
New England Division:		
Massachusetts	6.7	3.6
Connecticut	2.6	1.4
Middle Atlantic Division:		
New York	39.2	29.6
New Jersey	203.9	131.2
Pennsylvania	37.7	45.8
East North Central Division:		
Ohio	100.3	61.7
Indiana	29.5	8.2
Illinois	119.8	91.7
Michigan	49.8	28.4
West North Central Division:		
Minnesota	12.2	8.8
Missouri	53.6	26.9
South Atlantic Division:		
Maryland	5.1	8.6
North Carolina	9.8	5.0
Georgia	78.4	47.5
Florida	4.8	AA
East South Central Division:		
Alabama	6.8	3.4
West South Central Division:		
Texas	70.3	43.9
Pacific Division:		
California	99.6	71.2
28412, HOUSEHOLD DETERGENTS		
United States	2,817.2	1,633.9
Middle Atlantic Division:		
New Jersey	247.9	147.3
East North Central Division:		
Illinois	150.9	90.7
West North Central Division:		
Missouri	276.4	GG
Pacific Division:		
California	353.3	216.1
28413, SOAP, EXCEPT SPECIALTY CLEANERS, HOUSEHOLD		
United States	707.0	412.0
Middle Atlantic Division:		
New Jersey	51.8	33.6
East North Central Division:		
Ohio	136.7	GG
Michigan	3.3	1.5
Pacific Division:		
California	72.6	FF
28414, GLYCERIN		
United States	101.0	50.4
East North Central Division:		
Ohio	20.5	CC
Illinois	24.8	BB
28422, HOUSEHOLD BLEACHES		
United States	353.8	235.5
Middle Atlantic Division:		
New Jersey	59.2	FF
Pennsylvania	8.3	CC
East North Central Division:		
Michigan	7.3	6.5
South Atlantic Division:		
Georgia	46.0	19.4
Pacific Division:		
Washington	3.6	AA
California	42.0	FF
28423, SPECIALTY CLEANING AND SANITATION PRODUCTS		
United States	1,478.2	r887.3
New England Division:		
Massachusetts	21.7	18.8
Middle Atlantic Division:		
New York	60.1	44.5
New Jersey	214.9	100.3
Pennsylvania	51.5	23.9
28423, SPECIALTY CLEANING AND SANITATION PRODUCTS--Con.		
East North Central Division:		
Ohio	222.9	136.3
Indiana	26.4	CC
Illinois	208.5	203.6
Michigan	65.8	40.2
West North Central Division:		
Minnesota	9.8	AA
Missouri	88.3	48.8
Kansas	11.7	3.9
South Atlantic Division:		
Maryland	19.3	12.1
Georgia	55.7	48.0
Florida	8.0	CC
East South Central Division:		
Tennessee	8.7	6.1
West South Central Division:		
Louisiana	3.7	BB
Texas	33.6	FF
Mountain Division:		
Colorado	3.1	(NA)
Pacific Division:		
California	111.9	EE
28424, POLISHING PREPARATIONS AND RELATED PRODUCTS		
United States	505.7	391.8
New England Division:		
Massachusetts	30.3	27.2
Connecticut	9.9	AA
Middle Atlantic Division:		
New York	28.5	26.7
New Jersey	26.3	14.4
Pennsylvania	35.5	21.4
East North Central Division:		
Ohio	22.8	20.6
Indiana	6.6	6.4
Illinois	56.6	46.7
Michigan	41.6	FF
West North Central Division:		
Missouri	10.1	5.2
South Atlantic Division:		
Georgia	11.7	7.2
Florida	2.3	(NA)
West South Central Division:		
Texas	5.2	CC
Pacific Division:		
California	24.9	EE
28441, SHAVING PREPARATIONS		
United States	268.2	250.7
New England Division:		
Massachusetts	30.4	FF
Middle Atlantic Division:		
New Jersey	108.0	84.3
East North Central Division:		
Wisconsin	10.0	CC
Pacific Division:		
California	4.4	EE
28442, PERFUMES, TOILET WATER, AND COLOGNES		
United States	1,096.8	677.0
Middle Atlantic Division:		
New York	226.1	150.3
New Jersey	347.2	219.1
Pacific Division:		
California	42.2	GG
28443, HAIR PREPARATIONS, INCLUDING SHAMPOOS		
United States	1,474.9	1,065.1
Middle Atlantic Division:		
New York	35.0	FF
New Jersey	280.2	207.2
North Central Region:		
Ohio	75.8	48.4
Illinois	228.0	207.7
West North Central Division:		
Minnesota	153.9	125.8
Missouri	10.5	CC

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments (million dollars)	
	1977	1972
28443, HAIR PREPARATIONS, INCLUDING SHAMPOOS--Con.		
South Atlantic Division:		
North Carolina	4.6	BB
Georgia	3.3	(NA)
East South Central Division:		
Tennessee	15.0	8.0
West South Central Division:		
Texas	3.1	AA
Pacific Division:		
California	77.1	GG
28444, DENTIFRICES, MOUTH WASHES, GARGLES, AND RINSES		
United States	659.6	484.6
28445, OTHER COSMETICS AND TOILET PREPARATIONS		
United States	2,597.4	1,673.6
28445, OTHER COSMETICS AND TOILET PREPARATIONS--Con.		
Middle Atlantic Division:		
New York	425.5	188.3
New Jersey	539.4	387.6
Pennsylvania	11.2	EE
East North Central Division:		
Ohio	240.6	244.6
Illinois	290.7	241.8
Michigan	17.2	10.8
Wisconsin	10.1	BB
West North Central Division:		
Minnesota	42.3	EE
Missouri	99.0	64.5
East South Central Division:		
Tennessee	52.2	FF
West South Central Division:		
Texas	29.5	EE
Pacific Division:		
California	207.7	GG

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, 1972 to 1977

(In millions of dollars)

1977 code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2841-	Soap and other detergents	4,999.6	4,492.9	3,965.8	3,500.3	3,033.1	2,851.8	2,200.8	1,780.7
28411	Soap and detergents, nonhousehold	1,005.8	991.8	874.2	797.7	681.2	652.5	417.9	(NA)
28412	Household detergents	2,817.2	2,655.3	2,368.5	2,050.1	1,776.0	1,633.9	1,329.7	(NA)
28413	Soaps, except specialty cleaners, household	707.0	646.5	584.0	530.2	446.7	412.0	332.0	296.3
28414	Glycerin	101.0	104.7	84.5	79.2	58.9	50.4	48.1	38.5
28410	Soap and detergents, n.s.k.	(368.6)	(94.6)	(54.6)	(43.1)	(70.3)	103.0	73.2	17.6
2842-	Polishes and sanitation goods	2,668.5	2,431.5	2,196.9	1,980.4	1,844.3	r1,724.2	1,116.9	747.8
28422	Household bleaches	353.8	464.9	400.0	315.3	273.5	235.5	169.5	110.8
28423	Specialty cleaning and sanitation products	1,478.2	1,316.3	1,197.2	1,071.2	936.7	r887.3	528.0	331.7
28424	Polishing preparations and related products	505.7	509.9	476.0	443.9	433.2	391.8	324.5	278.8
28420	Polishes and sanitation goods, n.s.k.	330.8	140.4	123.7	150.0	200.9	209.6	94.9	26.5
2843-	Surface active agents								
28430	Surface active agents, finishes, and assistants	1,341.0	1,178.8	968.9	983.5	681.5	580.7	403.2	283.6
2844-	Toilet preparations	6,393.5	5,882.6	5,178.9	4,796.7	4,573.4	4,247.1	2,794.2	1,858.6
28441	Shaving preparations	268.2	267.6	212.7	249.2	317.9	250.7	178.7	111.1
28442	Perfumes, toilet water, and colognes	1,096.8	1,007.0	918.9	754.9	715.9	677.0	394.9	208.6
28443	Hair preparations, including shampoos	1,474.9	1,408.0	1,306.3	1,129.2	1,099.7	1,065.1	771.6	592.7
28444	Dentifrices, mouthwashes, gargles, and rinses	659.6	627.8	536.5	534.6	(S)	484.6	323.1	228.4
28445	Other cosmetics and toilet preparations	2,597.4	2,445.6	2,145.0	1,970.3	1,895.0	1,673.6	1,045.7	698.2
28440	Toilet preparations, n.s.k.	296.6	126.7	59.5	158.5	80.4	96.0	80.2	19.6

rRevised. (S) Withheld because estimate did not meet publication standards. (NA) Not available. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures shown in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. **Materials Consumed by Kind: 1977 and 1972**

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	1977 consumption of materials received from other establishments: Quantity[1]	1977 consumption of materials received from other establishments: Delivered cost (million dollars)	1972 consumption of materials received from other establishments: Quantity	1972 consumption of materials received from other establishments: Delivered cost (million dollars)
	INDUSTRY 2841, SOAP AND OTHER DETERGENTS						
	Materials, containers, and supplies	.....	.....	(X)	2,519.9	(X)	1,170.9
	Bulk surface active agents, other than sulfonated oils and fats:						
284309	Primarily for detergent purposes	Active wt..	Million lb....	516.6	155.7	752.4	96.7
284308	Other emulsifiers, wetting agents, penetrants, etc	Active wt..	↕	74.9	23.8	88.6	14.3
284141	Glycerin	100%.....	↕	**26.9	10.0	51.6	9.1
207011	Vegetable oil	.....	Million lb....	343.7	93.3	241.6	26.5
284421	Perfume oil mixtures and blends	.....	.....	(X)	108.3	(X)	55.5
207711	Grease and inedible tallow	.....	Million lb....	760.6	136.9	867.1	65.7
286901	Optical bleach (optical brightener)	.....	.....	(X)	26.3	(X)	27.2
281971	Potassium pyrophosphate (TKPP)	100% $K_4P_2O_7$	1,000 s. tons.	37.4	14.7	27.4	5.4
281211	Chlorine	100% CL....	↑	*18.8	8.3	(2)	(2)
281246	Potassium hydroxide	88-92% KOH.	↑	37.5	7.3	(2)	(2)
281976	Sodium sulfate	100%.....	↑	686.1	45.7	(2)	(2)
281228	Sodium carbonate (soda ash)	58% Na_2O...	↑	468.2	31.6	321.1	13.3
281238	Sodium hydroxide (caustic soda)	100% NaOH..	↑	521.7	53.7	395.4	31.6
281972	Sodium tripolyphosphate (STPP)	100% $Na_5P_3O_{10}$..	↑	592.6	218.1	930.7	131.8
281973	Tetrasodium pyrophosphate (TSPP)	100% $Na_4P_2O_7$...	↑	11.4	4.5	18.7	3.0
281974	Trisodium phosphate (TSP)	Na_3PO_4	↑	84.6	19.6	87.3	11.8
	Sodium silicates:						
281978	Water glass type	100%.....	↑	112.1	10.6	(2)	(2)
281979	Other, including meta silicate, osthosilicate, and sesquisilicate.	100%.....	1,000 s. tons.	432.8	44.6	(2)	(2)
270011	Labels, coupons, instructions, and other printed materials	.....	.....	(X)	15.6	(2)	(2)
	Containers:						
265001	Paperboard	.....	.....	(X)	188.4	(X)	123.8
340001	Metal	.....	.....	(X)	60.4	(X)	40.7
322101	Glass	1,000 Gross	.....	438.2	8.8	(X)	8.0
307940	Plastics	.....	.....	(X)	146.4	(X)	85.0
970099	All other materials and components, parts, containers, and supplies.	.....	.....	(X)	893.0	(X)	[3]378.2
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	194.3	(X)	43.3

1977 material code	Material	Basis	Unit of measure	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)
				1977	
	INDUSTRY 2842, POLISHES AND SANITATION GOODS				
	Materials, containers, and supplies	.....	.....	(X)	1,173.6
	Bulk surface active agents, other than sulfonated oils and fats:				
284309	Primarily for detergent purposes	Active wt.....	Million lb.....	(S)	58.5
284308	Other emulsifiers, wetting agents, penetrants, etc	Active wt.....	↕	91.9	19.8
284141	Glycerine	100%.....	↕	(S)	.6
207011	Vegetable oil	.....	Million lb.....	10.1	3.0
284421	Perfume oil mixtures and blends	.....	.....	(X)	24.2
207711	Grease and inedible tallow	.....	Million lb.....	*8.8	2.2
286901	Optical bleach	.....	.....	(X)	(D)
281971	Potassium pyrophosphate (TKPP)	100% $K_4P_2O_7$	1,000 s. tons..	*1.5	.9
281211	Chlorine	100% CL	↑	**111.3	16.2
281246	Potassium hydroxide	88-92% KOH.....	↑	**8.3	1.0
281976	Sodium sulfate	100%.....	↑	(S)	.7
281228	Sodium carbonate (soda ash)	58% Na_2O.....	↑	81.6	6.5
281238	Sodium hydroxide (caustic soda)	100% NaOH.....	↑	*116.2	18.0
281972	Sodium tripolyphosphate (STPP)	100% $Na_5P_3O_{10}$.....	↑	4.7	2.1
281973	Tetrasodium pyrophosphate (TSPP)	100% $Na_4P_2O_7$.....	↑	.3	.2
281974	Trisodium phosphate (TSP)	100% Na_3PO_4....	↑	4.4	.9
	Sodium silicates:				
281978	Water glass type	100%.....	↑	(D)	(D)
281979	Other, including meta silicate, osthosilicate, and sesquisilicate	100%.....	1,000 s. tons..	2.7	.8
270011	Labels, coupons, instructions, and other printed materials	.....	.....	(X)	10.8
	Containers:				
265001	Paperboard	.....	.....	(X)	56.5
340001	Metal	.....	.....	(X)	104.7
322101	Glass	.....	.....	(X)	12.9
307940	Plastics	.....	.....	(X)	157.5
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	405.6
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	254.0

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Consumption of materials received from other establishments	
				Quantity	Delivered cost (million dollars)
				1972	
	INDUSTRY 2842, POLISHES AND SANITATION GOODS--Con.				
	Materials, containers, and supplies	.....	.....	(X)	687.9
	Bulk surface active agents, other than sulfonated oils and fats:				
284309	Primarily for detergent purposes	Active wt.	Million lb.	107.0	16.3
284308	Other emulsifiers, wetting agents, penetrants, etc	Active wt.		47.3	7.6
284141	Glycerine	100%		1.0	.2
207011	Vegetable oil	.....	Million lb.	(D)	1.7
284421	Perfume oil mixtures and blends	.....	.....	(X)	13.8
207711	Grease and inedible tallow	.....	Million lb.	3.6	.7
286901	Optical bleach	.....	.....	(X)	1.0
281971	Potassium pyrophosphate (TKPP)	100% $K_4P_2O_7$	1,000 s. tons	(D)	(D)
281211	Chlorine	100% CL		131.5	7.4
281246	Potassium hydroxide	88-92% KOH		(NA)	(2)
281976	Sodium sulfate	100%		(NA)	(2)
281228	Sodium carbonate (soda ash)	58% Na_2O		64.3	3.1
281238	Sodium hydroxide (caustic soda)	100% NaOH		123.1	9.1
281972	Sodium tripolyphosphate (STPP)	100% $Na_5P_3O_{10}$		8.6	1.3
281973	Tetrasodium pyrophosphate (TSPP)	100% $Na_4P_2O_7$		(D)	(D)
281974	Trisodium phosphate (TSP)	100% Na_3PO_4		(D)	(D)
	Sodium silicates:				
281978	Water glass type	100%		(NA)	(2)
281979	Other, including meta silicate, osthosilicate, and sesquisilicate	100%	1,000 s. tons	(NA)	(2)
270011	Labels, coupons, instructions, and other printed materials	.....	.....	(X)	(2)
	Containers:				
265001	Paperboard	.....	.....	(X)	21.4
340001	Metal	.....	.....	(X)	89.1
322101	Glass	.....	.....	(X)	13.4
307940	Plastics	.....	.....	(X)	46.2
970099	All other materials and components, parts, containers and supplies	.....	.....	(X)	[3]334.5
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	120.1
				1977	
	INDUSTRY 2843, SURFACE ACTIVE AGENTS[4]				
	Materials, containers, and supplies	.....	.....	(X)	542.0
	Bulk surface active agents, other than sulfonated oils and fats:				
284309	Primarily for detergent purposes	Active wt.	Million lb.	113.1	32.6
284308	Other emulsifiers, wetting agents, penetrants, etc	Active wt.		111.9	27.3
284141	Glycerine	100%		12.3	6.3
207011	Vegetable oil	.....	Million lb.	**46.9	13.0
284421	Perfume oil mixtures and blends	.....	.....	(X)	(D)
207711	Grease and inedible tallow	.....	Million lb.	94.6	16.6
286901	Optical bleach	.....	.....	(X)	(D)
281971	Potassium pyrophosphate (TKPP)	100% $K_4P_2O_7$	1,000 s. tons	(D)	(D)
281211	Chlorine	100% CL		(D)	(D)
281246	Potassium hydroxide	88-92% KOH		.2	.1
281976	Sodium sulfate	100%		(D)	(D)
281228	Sodium carbonate (soda ash)	58% Na_2O		144.3	.4
281238	Sodium hydroxide (caustic soda)	100% NaOH		*28.2	3.0
281972	Sodium tripolyphosphate (STPP)	100% $Na_5P_3O_{10}$		.2	.1
281973	Tetrasodium pyrophosphate (TSPP)	100% $Na_4P_2O_7$		*.2	.1
281974	Trisodium phosphate (TSP)	100% Na_3PO_4		(D)	(D)
	Sodium silicates:				
281978	Water glass type	100%		-	-
281979	Other, including metal silicate, osthosilicate, and sesquisilicate	100%	1,000 s. tons	(D)	(D)
270011	Labels, coupons, instructions, and other printed materials	.....	.....	(X)	.1
	Containers:				
265001	Paperboard	.....	.....	(X)	5.6
340001	Metal	.....	.....	(X)	15.5
322101	Glass	.....	.....	(X)	.7
307940	Plastics	.....	.....	(X)	1.9
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	384.1
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	33.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972
			Quantity[1]	Delivered cost (million dollars)	Delivered cost (million dollars)
	INDUSTRY 2844, TOILET PREPARATIONS				
	Materials, containers, and supplies	.....	(X)	1,708.2	1,089.8
284421	Perfume oil mixtures and blends	Million lb.....	(S)	144.5	
286931	Perfume materials (synthetic organic)	↕	**16.5	32.3	
289951	Essential oils, natural		(S)	55.9	
284307	Bulk surface active agents other than sulfonated oils and fats	Million lb.....	**99.1	33.5	
207020	Fats, oils, greases, and tallow; animal, including lanolin; marine; vegetable, including carnauba and other vegetable waxes	.....	(X)	47.2	(2)
281302	Industrial gases, compressed and liquefied, including argon, carbon dioxide, nitrogen, and nitrous oxide, but excluding halogenated hydrocarbons	Million cu. ft.	(S)	5.6	
291102	Refined petroleum products, including mineral oil, naphtha, solvents, petrolatum, waxes, etc.	.....	(X)	23.2	
286904	Synthetic organic chemicals, including alcohols and halogenated hydrocarbons, but excluding perfume materials	Million lb.....	(S)	181.9	
	Containers:				
307940	Plastics	.....	(X)	278.5	201.3
322102	Glass	.....	(X)	151.6	116.3
260091	Paper and paperboard	.....	(X)	181.9	137.8
340001	Metal	.....	(X)	136.8	129.1
970099	All other materials and components, parts, containers, and supplies	.....	(X)	312.2	2440.1
971000	Materials, containers and supplies, n.s.k.[3]	.....	(X)	123.2	65.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (S) Withheld because estimate did not meet publication standards. (X) Not collected. (NA) Not available. n.s.k. Not specified by kind.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published quantity figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material code was included with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]Detailed materials consumed data are not available for 1972.

Paints and Allied Products

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DESCRIPTION OF INDUSTRIES

PAINTS AND ALLIED PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

2851 Paints and Allied Products

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2851, PAINTS AND ALLIED PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of paints (in paste and ready mixed form); varnishes; lacquers; enamels and shellac; putties; wood fillers and sealers; paint and varnish removers; paint brush cleaners and allied paint products. Establishments primarily engaged in the manufacture of carbon black are classified in Industry 2895, Carbon Black; bone black, lamp black and inorganic pigments in Industry 2816, Inorganic Pigments; organic color pigments in Industry 2865, Cyclic Crudes, and Cyclic Intermediates, Dyes and Organic Pigments; synthetic resins in Industry 2821, Plastic Materials and Resins; printing ink in Industry 2893, Printing Inks; caulking compounds and sealants in Industry 2891, Adhesives and Sealants; and artists paints in Industry 3952, Lead Pencils, Crayons, and Artists' Materials.

The total value of shipments for establishments classified in the Paints and Allied Products industry amounted to $6,630 million in 1977, an increase of 73 percent from 1972. The value of shipments of products classified as primary to the industry was $6,123 million, an increase of 74 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were architectural coatings, for which shipments increased 71 percent, and product finishes for original equipment manufacturers, for which shipments increased 86 percent. Value added by manufacture, at $2,821 million in 1977, was 57 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 61.4 thousand employees, a decrease of 7 percent from 1972. The leading States in employment were Illinois, California, Ohio, and New Jersey, accounting for approximately 45 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 45 percent of the industry's employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 2851, PAINTS AND ALLIED PRODUCTS[3]															
1977 Census..	1 288	1 579	653	61.4	882.6	33.0	66.2	394.1	2 821.3	3 848.9	6 629.7	167.4	(NA)	937.6	96	97
1976 ASM.....	(NA)	(NA)	(NA)	60.4	810.2	31.9	63.9	353.0	2 562.2	3 437.5	5 931.3	122.4	1 261.7	849.2	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	59.9	736.9	31.1	61.3	315.7	2 126.3	3 003.2	5 149.9	121.6	1 175.2	755.8	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	64.9	741.9	35.0	69.5	337.1	2 227.6	2 890.5	5 007.0	119.1	1 085.0	841.2	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	69.3	718.4	39.1	75.4	329.0	1 959.8	2 330.4	4 268.3	72.5	1 019.2	624.9	(NA)	(NA)
1972 Census..	1 317	1 599	687	65.9	647.2	36.2	73.2	295.1	1 791.7	2 058.4	3 821.8	81.5	1 031.9	542.8	95	96

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years**

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2851, PAINTS AND ALLIED PRODUCTS										
1977 Census..	14 386	(NA)	53	2 005	5.95	58	71	(NA)	45 987	31	42.64
1976 ASM.....	13 413	20 889	52	2 003	5.52	57	71	21	42 420	31	40.09
1975 ASM.....	12 302	19 619	51	1 971	5.15	58	72	22	35 497	34	34.68
1974 ASM.....	11 431	16 718	53	1 985	4.85	57	72	21	34 323	33	32.05
1973 ASM.....	10 366	14 707	56	1 928	4.36	54	71	23	28 279	36	25.99
1972 Census..	9 820	15 658	54	2 022	4.03	53	70	27	27 188	36	24.47

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 2851, PAINTS AND ALLIED PRODUCTS														
United States	-	**1 579**	**653**	**61.4**	**882.6**	**33.0**	**66.2**	**394.1**	**2 821.3**	**3 848.9**	**6 629.7**	**167.4**	**65.9**	**1 791.7**
New England Division:														
Massachusetts	E1	48	20	1.2	16.9	0.6	1.3	7.1	48.3	52.6	100.9	2.4	1.5	36.2
Connecticut	-	21	5	0.3	4.9	0.1	0.3	1.7	15.5	19.4	34.8	0.3	0.2	4.9
Middle Atlantic Division:														
New York	E1	133	39	3.3	46.5	1.9	4.0	21.7	129.4	177.2	304.4	(D)	4.4	101.1
New Jersey	-	146	64	5.5	81.7	3.3	6.4	39.5	277.9	329.2	602.4	10.8	6.4	189.9
Pennsylvania	-	61	30	3.6	53.0	2.1	3.9	25.8	158.4	186.2	342.6	6.1	4.5	119.4
East North Central Division:														
Ohio	-	97	55	5.8	86.5	3.0	6.3	39.3	282.4	392.2	669.6	7.6	6.6	175.1
Indiana	-	32	11	1.3	18.8	0.7	1.3	7.3	46.9	57.9	105.3	2.1	1.3	28.8
Illinois	-	142	69	8.2	119.2	4.6	9.3	57.4	364.0	514.5	865.7	15.7	8.0	223.4
Michigan	-	67	33	3.9	66.7	2.2	4.7	34.5	218.4	291.4	509.7	11.3	3.9	98.9
Wisconsin	-	31	11	1.0	15.7	0.5	1.0	6.1	37.0	65.4	101.3	2.5	1.0	28.2
West North Central Division:														
Minnesota	-	20	6	0.5	6.2	0.3	0.5	3.0	17.1	28.1	45.3	0.6	0.8	20.9
Iowa	-	14	4	0.6	8.7	0.4	0.8	5.0	26.0	57.3	82.9	2.8	0.6	26.6
Missouri	-	51	19	2.2	29.7	1.1	2.2	13.0	95.8	132.5	228.8	(D)	2.9	75.6
Kansas	-	7	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Atlantic Division:														
Delaware	E2	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maryland	-	24	16	1.6	19.8	0.9	1.7	7.1	52.8	81.8	133.0	2.4	1.6	34.8
Virginia	E1	14	10	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	14.0
North Carolina	-	22	12	1.3	21.6	0.5	1.1	6.0	46.5	91.1	137.0	2.3	1.2	32.1
South Carolina	-	4	2	0.3	2.9	0.1	0.3	1.2	4.8	10.4	15.3	0.4	(NA)	(NA)
Georgia	-	37	14	1.7	22.3	0.8	1.6	8.6	108.2	125.4	233.5	4.5	1.6	57.8
Florida	E1	78	15	1.1	13.4	0.6	1.2	5.6	34.6	51.6	85.4	1.7	1.4	29.7
East South Central Division:														
Kentucky	-	22	20	1.7	23.4	0.9	1.6	9.4	119.8	120.7	240.0	(D)	1.9	76.5
Tennessee	E2	23	8	0.6	7.4	0.4	0.7	3.2	12.5	34.9	49.0	0.8	0.7	12.2
Alabama	-	13	8	0.4	6.4	0.2	0.4	1.8	14.3	32.5	46.4	0.5	0.4	8.7
Mississippi	E6	9	3	0.2	2.9	0.1	0.2	1.1	7.8	12.3	20.1	0.3	(NA)	(NA)
West South Central Division:														
Arkansas	-	8	2	0.2	2.5	0.1	0.3	1.5	5.7	9.7	15.3	(D)	AA	(D)
Louisiana	-	10	4	0.2	2.4	0.1	0.2	0.8	7.5	9.9	17.3	0.2	AA	(D)
Oklahoma	E1	16	6	0.3	3.1	0.2	0.4	1.8	10.5	14.3	24.9	0.3	BB	(D)
Texas	-	87	39	3.5	47.1	1.7	3.4	18.8	179.0	246.0	422.2	38.8	3.6	102.7
Mountain Division:														
Colorado	-	10	4	0.3	4.2	0.1	0.2	1.1	9.8	17.7	27.5	0.2	0.3	7.9
Utah	-	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	E1	26	10	0.6	9.7	0.3	0.6	3.3	26.3	31.4	57.1	1.0	0.6	12.2
Oregon	E1	18	9	0.4	6.2	0.2	0.4	2.6	14.4	23.5	38.0	0.3	BB	(D)
California	-	232	88	7.7	109.1	4.1	8.2	49.1	386.3	549.8	929.4	12.8	7.8	230.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Paints and allied products (SIC 2851)
Primary product specialization ratio[1]	percent	96
Coverage ratio[2]	do	97
All establishments	number	1 579
With 1 to 19 employees	do	926
With 20 to 99 employees	do	508
With 100 employees or more	do	145
All employees, average for year	1,000	61.4
Payroll for year, all employees	mil. dol.	882.6
Production workers:		
Average for year	1,000	33.0
March	do	32.0
May	do	33.3
August	do	34.1
November	do	32.4
Hours	millions	66.2
January to March	do	15.7
April to June	do	17.0
July to September	do	17.2
October to December	do	16.3
Wages	mil. dol.	394.1
Cost of materials, etc.	do	3 848.9
Materials, parts, containers, etc., consumed	do	3 443.2
Resales	do	336.4
Fuels consumed	do	28.9
Purchased electric energy	do	31.3
Contract work	do	9.1
Value of shipments, including resales	do	6 629.7
Value of resales	do	436.2
Value added by manufacture	do	2 821.3
Manufacturers' inventories:		
Beginning of year	do	864.2
Finished products	do	474.8
Work in process	do	48.0
Materials, supplies, fuel, etc.	do	341.3
End of year	do	937.6
Finished products	do	513.8
Work in process	do	49.6
Materials, supplies, fuel, etc.	do	374.1
Capital expenditures for plant and equipment	do	178.2
New capital expenditures	do	167.4
New buildings and other structures	do	52.5
New machinery and equipment	do	114.9
Used capital expenditures	do	10.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Paints and allied products (SIC 2851)	
	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:		
Cost of purchased services for repair of--		
Buildings and other structures	7.0	6
Response coverage ratio[2] (percent)	50.0	(X)
Machinery	21.7	7
Response coverage ratio[2] (percent)	49.8	(X)
Cost of purchased communication services	15.8	8
Response coverage ratio[2] (percent)	48.5	(X)
Rental payments	34.9	6
Buildings and other structures	18.1	9
Machinery and equipment	16.9	6
Supplemental labor costs	159.0	1
Legal costs	65.3	2
Voluntary costs	93.7	2
Gross value of depreciable assets:		
Buildings and other structures:		
Beginning or year	516.6	3
New capital expenditures	50.0	4
Used capital expenditures	(6.1)	18
Retirements	22.9	6
End of year	549.9	3
Machinery and equipment:		
Beginning of year	717.0	2
New capital expenditures	129.6	6
Automobiles, trucks, etc., for highway use[3]	(4.8)	(A)
Computers and peripheral data processing equipment[3]	(3.5)	(A)
All other[3]	(87.5)	27
New machinery and equipment, n.s.k.[4]	(33.8)	40
Used capital expenditures	5.8	9
Retirements	34.6	3
End of year	817.9	2
Total gross value of depreciable assets:		
Beginning of year	1,233.7	2
New capital expenditures	179.6	4
Used capital expenditures	11.9	11
Retirements	57.4	4
End of year	1,367.8	2
Depreciation charges during 1977	129.4	3
Buildings and other structures	36.6	3
Machinery and equipment	92.8	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2851, PAINTS AND ALLIED PRODUCTS												
Total	-	**1 579**	**61.4**	**882.6**	**33.0**	**66.2**	**394.1**	**2 821.3**	**3 848.9**	**6 629.7**	**167.4**	**937.6**
Establishments with an average of—												
1 to 4 employees	E7	408	0.7	10.1	0.5	0.8	4.5	27.3	40.9	69.1	(41.4)	9.5
5 to 9 employees	E6	247	1.7	23.4	0.9	1.9	10.5	61.8	96.9	157.9	(D)	21.2
10 to 19 employees	E1	271	3.9	53.3	2.1	4.2	22.8	140.5	212.3	350.3	(D)	47.8
20 to 49 employees	-	330	10.2	139.6	5.4	10.7	57.3	396.6	569.4	958.9	18.6	137.7
50 to 99 employees	-	178	12.4	171.9	6.5	12.9	72.3	514.4	739.8	1 250.1	18.6	185.3
100 to 249 employees	-	107	16.5	229.3	9.0	18.4	106.4	777.6	1 064.7	1 837.2	54.0	252.1
250 to 499 employees	-	29	9.8	154.5	5.5	11.0	73.6	582.0	729.0	1 300.1	22.7	171.5
500 to 999 employees	-	9	6.1	100.5	3.1	6.3	46.6	321.2	395.9	706.0	12.0	112.6
Covered by administrative records[2]	E0	516	2.0	26.9	1.1	2.1	11.7	68.2	99.2	167.4	3.2	23.6

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2851	**Paints and allied products:**										
	Entire industry	1 579	61.4	882.6	33.0	66.2	394.1	2 821.3	3 848.9	6 629.7	167.4
	Establishments with 75 percent specialization or more	1 512	56.8	817.1	30.7	61.3	365.9	2 626.7	3 553.6	6 142.8	159.9
28511	Architectural coatings (including lacquers):										
	Establishments with this product class primary	403	25.9	346.6	14.0	27.5	159.5	1 229.1	1 723.1	2 938.8	43.2
	Establishments with 75 percent specialization or more in class	294	14.1	187.3	7.7	14.9	85.1	679.0	920.8	1 587.5	21.6
28512	Product finishes for original equipment manufacturers (including lacquers)										
	Establishments with this product class primary	253	18.3	296.7	9.3	19.4	124.7	846.3	1 188.5	2 015.4	35.2
	Establishments with 75 percent specialization or more in class	169	11.0	182.0	5.6	11.9	76.2	514.9	709.4	1 214.2	24.2
28513	Special purpose coatings (including for transport after market and including lacquers):										
	Establishments with this product class primary	75	5.8	89.3	3.2	6.4	40.8	326.5	327.2	654.9	35.7
	Establishments with 75 percent specialization or more in class	32	1.6	20.8	0.9	1.7	10.3	115.8	104.5	223.2	(D)
28518	Putty and allied products:										
	Establishments with this product class primary	32	1.2	15.4	0.7	1.4	7.5	39.1	70.7	109.9	3.1
	Establishments with 75 percent specialization or more in class	18	0.6	7.4	0.4	0.7	4.4	16.2	42.8	58.7	(D)
28519	Miscellaneous paint products:										
	Establishments with this product class primary	71	3.9	51.5	2.4	4.6	24.6	149.4	233.7	375.8	5.8
	Establishments with 75 percent specialization or more in class	51	2.9	37.7	1.9	3.6	18.8	112.1	162.3	269.0	4.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2851	Paints and allied products.....1977..	6,629.7	5,911.8	256.1	461.8	96	6,123.0	5,911.8	211.2	97
	1972..	3,821.8	3,392.6	174.9	254.3	95	3,520.2	3,392.6	127.6	96
	1967..	2,911.4	2,598.5	133.0	179.8	95	2,703.8	2,598.5	105.4	96

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Paints and allied products (SIC 2851)	Other industries
	Total	(X)	6,629.7	(X)
	Primary products	(X)	5,911.8	(X)
	Secondary products	(X)	256.1	(X)
	Miscellaneous receipts	(X)	461.8	(X)
2851-	Paints and allied products	6,123.0	5,911.8	211.2
28511	Architectural coatings (including lacquers)	2,234.0	2,197.7	36.3
28512	Product finishes (including lacquers) original equipment manufacturers	1,957.2	1,914.1	43.1
28513	Special purpose coating (including transport after market and including lacquers)	727.8	688.2	39.6
28518	Putty and allied product	140.4	108.7	31.7
28519	Miscellaneous paint products	532.5	483.8	48.7
28510	Paints and allied products, n.s.k.	531.1	519.3	11.8
	Other shipments by 4-digit product group:			
2295-	Coated fabrics, not rubberized	(X)	(D)	(X)
2821-	Plastics materials and resins	(X)	118.9	(X)
2822-	Synthetic rubber	(X)	(D)	(X)
2841-	Soap and other detergents	(X)	(D)	(X)
2842-	Polishes and sanitation goods	(X)	(D)	(X)
2891-	Adhesives and sealants	(X)	52.5	(X)
2893-	Printing ink	(X)	5.0	(X)
2899-	Chemical preparations, n.e.c.	(X)	11.0	(X)
3079-	Miscellaneous plastics products	(X)	5.3	(X)
3275-	Gypsum products	(X)	7.1	(X)
3299-	Nonmetallic mineral products, n.e.c.	(X)	(D)	(X)
3991-	Brooms and brushes	(X)	(D)	(X)
	Miscellaneous receipts:			
93000 00	Contract work	(X)	7.1	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(X)
99980 41	Receipts for research and developmental work	(X)	(D)	(X)
99980 98	Other miscellaneous receipts, including receipts for repair work, etc	(X)	.7	(X)
99980 00	Other miscellaneous receipts, n.s.k.	(X)	2.0	(X)
99989 00	Resales	(X)	436.2	(X)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary product:			Other industries with over $5 million shipments of primary products--Con.	
2851-	2821 Plastics materials and resins	28.2	2851-	2893 Printing ink	13.0
	2841 Soap and other detergents	15.3		2899 Chemical preparations, n.e.c.	12.0
	2842 Polishes and sanitation goods	13.4		2952 Asphalt felts and coatings	7.4
	2865 Cyclic crudes and intermediates	16.7		3079 Miscellaneous plastics products	6.4
	2869 Industrial organic chemicals, n.e.c.	(D)		3714 Motor vehicle parts and accessories	(D)
	2891 Adhesives and sealants	30.5			

(D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.
(X) Not applicable.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	PAINTS AND ALLIED PRODUCTS[3]						
2851- --	Total	.....	(NA)	(X)	6,123.0	(X)	3,520.2
28511 --	Architectural coatings, including architectural lacquers	Million gal...	(NA)	(X)	2,234.0	(X)	[4]1,306.6
	Exterior solvent-type		(NA)	67.7	420.4	83.3	295.4
28511 11	Solvent and alkyd vehicle paints in paste and semipaste form		17	*5.4	39.6	8.9	26.5
	Solvent paints, enamels, and varnishes in ready-mixed form:						
28511 21	Solvent and alkyd vehicle house paints and tinting bases		88	*21.1	137.1	28.9	110.6
28511 22	Sash, trim, and trellis enamels and tinting bases		31	3.6	25.9	3.7	15.7
28511 24	Porch and deck enamels and tinting bases, including interior-exterior floor enamels		58	6.8	41.5	7.6	29.0
28511 25	Undercoaters and primers		57	6.7	41.1	9.0	30.3
28511 27	Barn and roof paints, excluding bituminous paints and roof coatings		18	1.6	7.8	2.9	8.4
28511 35	Varnish, oleoresinous (synthetic and natural)		27	2.1	13.3	4.8	16.3
28511 37	Stains, including shingle and shake		37	14.4	68.2	12.3	38.1
28511 39	Other exterior solvent paints, including bituminous paints		35	6.0	45.9	5.2	20.5
	Exterior water-type		(NA)	97.3	498.3	61.4	215.8
28511 43	House water emulsion paints and tinting bases		126	57.0	300.9		
28511 45	Trim and trellis water emulsion paints and tinting bases		29	3.8	23.1	[5]	[5]
28511 47	Porch and floor water emulsion paints and tinting bases		22	2.7	14.3		
28511 49	Water base stains		32	6.6	28.2		
28511 53	Masonry water emulsion paints and tinting bases		36	6.1	27.4	9.4	29.8
28511 57	All-purpose water emulsion paints and tinting bases, excluding exterior-interior water emulsion paints		26	*12.7	65.0	[5]48.0	[5]173.0
28511 59	Other exterior water-thinned paints, including barn and roof, marine, traffic, automotive, varnishes, etc		32	*8.4	39.4	[5]4.0	[5]13.0
	Interior solvent-type		(NA)	(S)	326.2	67.8	264.4
	Solvent paints, enamels, and varnishes in ready-mixed form:						
28511 63	Flat wall paints and tinting bases including semipaste (solvent and alkyd vehicle)		47	(S)	71.9	14.8	51.6
28511 65	Gloss and quick drying enamels and tinting bases		73	7.9	50.6	13.4	62.0
28511 69	Semigloss paints and tinting bases		77	12.5	79.6	15.9	60.6
28511 71	Undercoaters and primers		26	4.2	24.6	5.0	17.7
28511 73	Other interior solvent paints and enamels, n.e.c., including mill white paints and interior marine shelf goods		23	(S)	15.9	6.9	24.9
28511 75	Varnishes, including shellac varnishes		42	*7.1	43.1	8.1	33.7
28511 77	Stains		35	(S)	40.5	3.7	13.9
	Interior water-type		(NA)	(S)	737.4	132.9	420.4
28511 81	Flat water emulsion paints and tinting bases		161	107.7	491.1	100.7	311.4
28511 83	Semigloss water emulsion paints and tinting bases		107	32.8	172.9	18.4	66.9
28511 85	All-purpose water emulsion paints		35	**7.2	32.7	7.5	22.2
28511 89	Other interior water-thinned paints, including paste and semipaste		33	(S)	40.7	[6]6.3	19.9
28511 93	Architectural lacquers	Million gal...	21	*3.9	19.1	6.8	23.0
28511 00	Architectural coatings, n.s.k.	.....	(NA)	(X)	232.6	(X)	[4]87.6
28512 --	Product finishes for original equipment manufacturers (OEM), including OEM lacquers	.....	(NA)	(X)	1,957.2	(X)	[7]1,052.7
28512 21	Automobile finishes, except lacquers	Million gal...	33	**48.0	278.7	40.0	127.3
28512 23	Truck and bus finishes		26	11.0	72.2	4.9	16.3
28512 25	Other transportation equipment finishes, including aircraft, rockets, and missiles		20	*6.9	43.2	[6]3.9	13.0
28512 27	Automotive lacquers, including acrylics		27	*24.1	178.6	16.3	57.1
28512 31	Marine paints, ship bottom and other specially formulated paints, excluding shelf goods		24	**7.1	59.5	9.1	42.7
28512 33	Railroad finishes		16	3.8	18.9	3.7	11.2
28512 35	Appliance, heating equipment, and air-conditioner finishes		40	12.7	77.2	17.7	60.0
28512 37	Wood furniture and fixtures, varnishes and other finishes		34	*12.9	57.9	18.1	43.5
28512 39	Wood and composition board flat stock varnishes and other finishes		21	9.5	47.6	10.8	31.9
28512 41	Sheet, strip, and coil coatings, including sidings, excluding containers		28	19.7	149.0	14.3	60.3
	Metal decorating:						
28512 43	Container and closure finishes		47	48.3	223.4	34.7	102.6
28512 45	Other metal decorating finishes		42	5.4	31.3	9.0	30.2
28512 47	Machinery and equipment finishes, including road building equipment and farm implements, excluding insulation varnish		86	*19.3	119.1	14.4	49.3
28512 49	Metal furniture and fixture finishes		56	**10.7	65.5	11.0	38.0
28512 51	Paper and paperboard finishes, excluding pigment binders		16	(S)	15.5	4.4	11.6
28512 53	Insulating varnishes, electrical types	Million gal...	13	7.2	44.8	9.5	29.2
28512 55	Powdered coatings	Million lbs...	19	(S)	32.7	0.4	6.9
28512 56	Industrial varnishes, n.e.c.	Million gal...	14	1.7	8.3		
28512 57	Other industrial product finishes, excluding semimanufactured products such as pigment dispersions and ink vehicles	Million gal...	54	**18.7	102.1	21.0	70.2

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
2851- --	PAINTS AND ALLIED PRODUCTS--Con.						
28512 --	Product finishes for original equipment manufactures (OEM), including OEM lacquers--Con.						
	Industrial lacquers:						
28512 59	Wood	Million gal...	49	39.2	156.6	35.9	78.8
28512 61	Fabricated metal		30	8.9	49.6	8.9	33.9
28512 63	Paper and paperboard		14	(S)	8.6	3.5	8.2
28512 69	Industrial lacquers for other end uses	Million gal...	39	**7.0	39.2	12.5	40.7
28512 00	Product finishes for original transportation equipment, n.s.k.	.....	(NA)	(X)	77.7	(X)	[7]89.8
28513 --	Special purpose coatings, including coatings for transportation after market, including lacquers	.....	(NA)	(X)	727.8	(X)	[8]340.2
	Industrial maintenance paints:						
28513 01	Interior (specially formulated coatings for special conditions in the interior of industrial plants requiring protection against extreme temperatures, fungi, chemicals, fumes, etc.)	Million gal...	53	(S)	84.8	14.1	57.6
28513 05	Exterior (specially formulated coatings for special conditions in the exterior of industrial plants requiring protection against extreme temperatures, fungi, chemicals, fumes, etc.)		71	(S)	158.3	[6]20.2	67.2
28513 07	Metallic paints (aluminum, zinc, bronze, etc.)		29	**3.9	22.4	3.8	15.5
28513 11	Traffic paints (all types, shelf goods and highway departments)		39	19.9	72.3	18.0	38.7
28513 13	Automotive and machinery refinish paints and enamels, except lacquers		35	17.7	156.6	10.4	52.0
28513 16	Automotive and machinery refinish primers and undercoaters		20	4.8	35.2	3.2	11.7
28513 27	Automotive and machinery refinish lacquers		10	10.2	130.2	7.5	51.6
28513 29	Marine paints and enamels (shelf goods)		16	2.1	19.9	3.3	14.5
28513 31	Aerosol paints made from paint produced and packaged in this establishment or packaged on contract for you	Million gal...	22	*4.2	36.9	5.9	31.4
28513 00	Special purpose coatings, n.s.k.	.....	(NA)	(X)	11.2	(X)	([8])
28518 --	Putty and allied products	.....	(NA)	(X)	140.4	(X)	138.0
28518 11	Wood and textile preservatives (nonpressure type)	Million gal...	6	(S)	5.9	(S)	12.0
28518 21	Wood fillers and sealers		16	(S)	24.2	9.3	22.3
28518 53	Putty and glazing compounds		13	(S)	14.9	(S)	21.4
28518 63	Paint and varnish removers		34	(S)	49.0	(S)	27.7
28518 98	Other allied paint products, including brush cleaners	Million gal...	13	1.4	14.1	(S)	41.4
28518 00	Putty and allied products, n.s.k.	.....	(NA)	(X)	32.3	(X)	13.2
28519 --	Miscellaneous paint products	.....	(NA)	(X)	532.5	(X)	350.6
28519 11	Thinners for dopes, lacquers, and oleoresinous thinners, including mixtures and proprietary thinners	Million gal...	81	**66.5	163.8	59.3	71.3
	Aerosol paints made from purchased paint:						
28519 43	Interior paints		13	(S)	84.7	(S)	64.5
28519 45	Exterior paints	Million gal...	16	6.7	38.8		
28519 51	Organosols and plastisols, other than coatings	.....	13	(X)	20.9		
28519 75	Paint and varnish driers	.....	4	(X)	9.8	(X)	23.3
28519 79	Miscellaneous related paint products, e.g., pigment dispersions, ink vehicles, bleached shellacs, etc	.....	70	(X)	195.8	(X)	169.0
28519 00	Miscellaneous paint products, n.s.k.	.....	(NA)	(X)	18.7	(X)	22.5
28510 00	Paints and allied products, n.s.k., typically for companies with 5 employees or more (see note)	.....	(NA)	(X)	363.7	(X)	268.0
28510 02	Paints and allied products, n.s.k., typically for companies with less than 5 employees (see note)	.....	(NA)	(X)	167.4	(X)	64.1

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00", or in some cases, to appropriate product group code (4 digits) followed by "0 00."

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated equals or exceeds 10 percent of published figure: * indicates 19 to 20 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]1977 and 1972 product detail have been aligned with new product class descriptions reported in Current Industrial Reports M-28F, Paint, Varnish, and Lacquer. 1977 product classes 28511, 28512, and 28513 are comparable with 1972 product classes 28511-28517, except for n.s.k. data (see footnotes 4, 7, and 8). For 1972 product class and product descriptions, see 1972 Census of Manufactures Volume II, Industry Statistics, part 2.

[4]Includes n.s.k. data for 1972 product classes 28511, 28512, 28513, 28514, and 28515.

[5]Data for these product codes were not collected for 1972, but were included in product codes 28511 57 and 28511 59.

[6]10 to 30 percent of quantity was estimated.

[7]Includes n.s.k. data for 1972 product classes 28516 and 28517.

[8]Total excludes n.s.k. data for 1972 (see footnotes 4 and 7).

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28511, ARCHITECTURAL COATINGS (INCLUDING LACQUERS)		
United States	2,234.0	1,306.6
New England Division:		
Massachusetts	43.7	(NA)
Connecticut	9.7	(NA)
Middle Atlantic Division:		
New York	83.5	(NA)
New Jersey	199.1	(NA)
Pennsylvania	113.2	(NA)
East North Central Division:		
Ohio	160.7	(NA)
Indiana	30.9	(NA)
Illinois	351.4	(NA)
Michigan	35.9	(NA)
Wisconsin	34.1	(NA)
West North Central Division:		
Minnesota	25.2	(NA)
Missouri	76.0	(NA)
Kansas	5.1	(NA)
South Atlantic Division:		
Maryland	61.8	(NA)
Virginia	18.6	(NA)
Georgia	116.7	(NA)
East South Central Division:		
Kentucky	94.4	(NA)
Tennessee	9.3	(NA)
Alabama	10.2	(NA)
West South Central Division:		
Oklahoma	4.8	(NA)
Texas	205.5	(NA)
Mountain Division:		
Colorado	17.5	(NA)
Arizona	6.8	(NA)
Pacific Division:		
Washington	36.7	(NA)
Oregon	10.4	(NA)
California	338.0	(NA)
28512, PRODUCT FINISHES FOR ORIGINAL EQUIPMENT MANUFACTURERS (INCLUDING LACQUERS)		
United States	1,957.2	1,052.7
New England Division:		
Massachusetts	13.1	(NA)
Middle Atlantic Division:		
New York	62.3	(NA)
New Jersey	119.6	(NA)
Pennsylvania	118.6	(NA)
East North Central Division:		
Ohio	296.4	(NA)
Indiana	48.0	(NA)
Illinois	243.5	(NA)
Michigan	340.2	(NA)
West North Central Division:		
Minnesota	9.5	(NA)
Iowa	22.6	(NA)
Missouri	48.3	(NA)
South Atlantic Division:		
Maryland	26.9	(NA)
Virginia	12.7	(NA)
North Carolina	77.0	(NA)
Georgia	45.0	(NA)
28512, PRODUCT FINISHES FOR ORIGINAL EQUIPMENT MANUFACTURERS (INCLUDING LACQUERS)--Con.		
East South Central Division:		
Kentucky	49.9	(NA)
Alabama	27.6	(NA)
West South Central Division:		
Texas	55.6	(NA)
Pacific Division:		
Washington	6.4	(NA)
Oregon	9.9	(NA)
California	213.7	(NA)
28513, SPECIAL PURPOSE COATINGS (INCLUDING TRANSPORT AFTER MARKET AND INCLUDING LACQUERS)		
United States	727.8	340.2
New England Division:		
Massachusetts	6.9	(NA)
Middle Atlantic Division:		
New York	32.7	(NA)
New Jersey	96.0	(NA)
Pennsylvania	29.2	(NA)
East North Central Division:		
Ohio	73.9	(NA)
Indiana	5.0	(NA)
Illinois	72.8	(NA)
Michigan	42.5	(NA)
Wisconsin	7.0	(NA)
West North Central Division:		
Minnesota	8.9	(NA)
South Atlantic Division:		
Virginia	2.7	(NA)
Georgia	22.2	(NA)
East South Central Division:		
Alabama	2.2	(NA)
West South Central Division:		
Louisiana	5.8	(NA)
Texas	59.2	(NA)
Pacific Division:		
Oregon	4.8	(NA)
California	63.3	(NA)
28518, PUTTY AND ALLIED PRODUCTS		
United States	140.4	138.0
Middle Atlantic Division:		
New York	6.8	13.8
New Jersey	13.5	6.6
Pennsylvania	2.7	2.1
East North Central Division:		
Ohio	14.8	23.6
Illinois	14.6	12.5
West North Central Division:		
Missouri	2.4	(NA)
South Atlantic Division:		
Georgia	5.8	13.2
West South Central Division:		
Texas	14.1	EE
Pacific Division:		
California	21.7	20.3

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments		Product class and geographic area	Value of product shipments	
	1977	1972		1977	1972
28519, MISCELLANEOUS PAINT PRODUCTS			28519, MISCELLANEOUS PAINT PRODUCTS--Con.		
United States	532.5	350.6	West North Central Division:		
New England Division:			Missouri	5.1	CC
Massachusetts	3.2	5.2	South Atlantic Division:		
Connecticut	3.3	BB	Maryland	2.7	1.1
			North Carolina	21.3	8.6
Middle Atlantic Division:			Georgia	10.9	4.6
New York	7.3	9.6	Florida	3.7	AA
New Jersey	121.5	46.1	East South Central Division:		
Pennsylvania	41.6	29.0	Kentucky	13.7	GG
			West South Central Division:		
East North Central Division:			Texas	13.6	11.4
Ohio	72.7	56.7			
Illinois	67.7	40.9	Pacific Division:		
Michigan	52.1	14.8	California	47.6	34.1

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2851-28511	Paints and allied products	6,123.0	5,414.6	4,671.8	4,578.1	3,914.4	3,520.2	2,703.8	2,298.3
28511	Architectural coatings (including lacquers)	2,234.0					1,306.6		
28512	Product finishes for original equipment manufacturers (including lacquers)	1,957.2	4,493.5	3,866.3	3,684.9	3,013.4	1,052.7	2,129.3	1,999.0
28513	Special purpose coatings (including transport after market and including lacquers)	727.8					340.2		
28518	Putty and allied products	140.4	138.8	125.1	125.6	143.4	138.0	(2)	(2)
28519	Miscellaneous paint products	532.5	569.0	468.2	497.9	408.4	350.6	235.6	190.2
28510	Paints and allied products, n.s.k.	531.1	(213.3)	(212.2)	269.7	349.2	332.1	338.9	109.1

n.s.k. Not specified by kind.
[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.
[2]For 1967 and 1963, individual product codes included in this class differ significantly from posterior years. Products shifting into or out of this product class represent more than 15 percent of total value at 1972 U.S. levels.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 2851, PAINTS AND ALLIED PRODUCTS					
	Materials, parts, containers, and supplies	.....	(X)	3,443.2	(X)	1,855.2
	Vegetable oils:					
207611	Linseed oil (crude or processed)	Million lb.....	*90.2	25.9	171.9	23.5
207016	All other vegetable oils		*147.6	51.0	150.4	25.1
	Pigments:					
281611	Titanium dioxide, composite and pure (100% TiO_2)		*964.7	298.4	738.1	190.8
281622	Zinc oxide pigments, including leaded zinc oxide	Million lb.....	(S)	32.3	77.9	14.9
281601	Other inorganic pigments, including chrome colors, whiting, calcium carbonate (precipitated), white and red lead, litharge, lithopone, etc	.....	(X)	136.2	(X)	119.7
286532	Organic color pigments, lakes, and toners	.....	(X)	81.5	(X)	52.1
286911	Driers (napthenic acid salts, rosin acid salts, etc.)	.....	(X)	20.3	(X)	14.8
286962	Cellulose esters (nitrocellulose, etc.)	Million lb.....	*76.4	53.1	74.0	30.4
286922	Solvents (butyl alcohols, butyl acetate, acetone, etc.)	.....	(X)	236.9	(X)	105.2
286937	Plasticizers (dioctyl phthalate, dibutyl phthalate, diisodecyl phthalate, dioctyl sebacate, tricresyl phosphate, etc.)	Million lb.....	*85.5	25.9	59.1	13.2
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and other shapes:					
	Purchased from other establishments		*865.0	335.6	1,424.8	10.7
	Produced and consumed in this establishment (quantity only)		(S)	(X)	(X)	(X)
286102	Tall oil and rosin (gum and wood)	Million lb.....	*38.4	12.0	(X)	9.0
291105	Petroleum thinners (naphtha)	Million gal....	161.1	87.6	203.0	47.9
285102	Paints purchased for packaging in aerosol containers	.....	(X)	17.5		
285191	Purchased pigment dispersion	.....	(X)	49.5		
329511	Nonmetallic minerals and earths, ground or otherwise treated (calcium carbonate, talc, silica, kaolin, mica, barite, soapstone, clay, and other clay minerals) for use as extenders	.....	(X)	78.7	(X)	(2)
287936	Fungicides and mildicides	.....	(X)	14.1		
	Other chemicals:					
286967	Glycerol (glycerine)	Million lb.....	23.7	11.9	32.1	7.1
286968	Pentaerythritol		25.5	11.9	65.2	12.1
286514	Phthalic anhydride		95.6	25.3	126.2	11.2
286516	Styrene		46.8	9.9	61.3	4.6
286927	Vinyl acetate monomer	Million lb.....	*77.5	18.4	112.4	14.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	11.7	(X)	(2)
	Containers:					
340001	Metal	.....	(X)	319.7	(X)	184.0
265001	Paper and paperboard	.....	(X)	41.0	(X)	23.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	667.6	(X)	2413.1
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	769.3	(X)	228.8

n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 285102, 285191, 329511, 287936, and 307903 were included with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

Industrial Organic Chemicals

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DESCRIPTION OF INDUSTRIES

INDUSTRIAL ORGANIC CHEMICALS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
2861	Gum and Wood Chemicals
2865	Cyclic Crudes and Intermediates
2869	Industrial Organic Chemicals, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

Industries 2865, Cyclic Crudes and Intermediates, and 2869, Industrial Organic Chemicals, N.E.C., include establishments primarily engaged in the manufacture of basic industrial organic chemicals. The U.S. International Trade Commission (ITC) collects comparable data for these products on a much more detailed basis in the annual report, Synthetic Organic Chemicals: United States Production and Sales.

In order to avoid duplicating the reports furnished to the ITC for synthetic organic chemicals, establishments reporting these products to the ITC were requested to report dollar values by product classes to the Bureau of the Census, including the value of those synthetic organic chemicals shipped as interplant transfers. As indicated in table A below, the dollar values reported to the Census Bureau differ from those reported to the ITC.

In general, data reported to the Census Bureau are for the value of the product as shipped, whether it is a chemical compound or a finished product (preparation or mixture). Sales figures reported to the ITC represent the value of the organic chemical compound whether it is shipped as such or incorporated in another product. Also, reports to the Census Bureau are based on plant reports and the dollar shipment figures represent the valuation (f.o.b. plant) of all goods physically shipped from the producing site. Thus, the Census Bureau data include products shipped on consignment and interplant transfers (separate measures are shown in table 6A), while the ITC data represent sales on a company basis by primary producers only when accompanied by passage of title. Thus, the commercial shipment figures reported by the Census Bureau most nearly correspond to the information in the ITC report.

INDUSTRY 2861, GUM AND WOOD CHEMICALS

This industry comprises establishments primarily engaged in the manufacture of hardwood and softwood distillation products, wood and gum naval stores, charcoal, natural dye-stuffs, and natural tanning materials. Establishments primarily engaged in the manufacture of synthetic tanning materials are classified in industry 2869, synthetic dye in industry 2865, and synthetic organic chemicals in industries 2833, 2843, 2865, 2869, and 2873. For a detailed list of products of industry 2861 refer to table 6a, product codes 28611 13 to 28612 98.

The total value of shipments for establishments classified in the Gum and Wood Chemicals industry amounted to $391 million in 1977, an increase of 18 percent from 1972. The value of shipments of products classified as primary to the industry was $436 million, an increase of 45 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $185 million in 1977, was 19 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 4.8 thousand employees, a decrease of 19 percent from 1972. The leading States in employment were Georgia, Florida, and Missouri, accounting for approximately 50 percent of the industry's 1977 employment. Data for these States were withheld to avoid disclosing operations of individual companies.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative

records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 2865, CYCLIC CRUDES AND INTERMEDIATES

This industry comprises establishments primarily engaged in the manufacture of coal tar crudes, synthetic organic intermediates, dyes, color lakes and toners, and coal tar crudes. Important products of this industry include (1) derivatives of benzene, toluene, napthalene, anthracene, pyridine, carbazole, and other cyclic chemical products; (2) synthetic organic dyes; (3) synthetic organic pigments; and (4) cyclic (coal tar) crudes, such as light oils and light oil products, coal tar acids, and products of medium and heavy oil such as creosote oil, naphthalene, anthracene, and their higher homologues, and tar. Establishments primarily engaged in the manufacture of coal tar crudes in chemical recovery ovens are classified in industry 3312; and petroleum refineries, which produce such products, in industry 2911.

No attempt was made by the Bureau of the Census to secure commodity detail for intermediates, dyes, or lakes and toners, since this information is compiled and published by the U.S. International Trade Commission (ITC) in Synthetic Organic Chemicals, United States Production and Sales. Likewise, no attempt was made by the Census Bureau to secure commodity detail for the tar crudes manufactured by tar distillers since this information is also published in the ITC report.

Direct comparisons between the product-class data reported to the Census Bureau and the product information reported to the ITC should be used carefully, since the statistics published by the ITC do not show all products produced by tar distillers as distinguished from products produced by petroleum refineries or others. However, in order to provide the data user with as much information as possible, table A presents value of shipments (including interplant transfers) and commercial shipments as published by the Census Bureau, and value of sales as published by the ITC, for 1977 and 1972.

For the value of the product groupings comprising industry 2865, see table 6A, product codes 28651 11 to 28655 11.

The total value of shipments for establishments classified in the Cyclic Crudes and Intermediates industry amounted to $5,637 million in 1977, an increase of 175 percent from 1972. The value of shipments of products classified as primary to the industry was $5,514 million, an increase of 136 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were cyclic (coal tar) intermediates, for which shipments increased 166 percent. Value added by manufacture, at $2,214 million in 1977, was 138 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 35.7 thousand employees, an increase of 27 percent from 1972. The leading States in employment were New Jersey, West Virginia, New York, and

Table A. Shipments and Interplant Transfers of Synthetic Organic Chemicals: 1977 and 1972

1977 product code	Product class and product	Reported by Census Bureau				Reported by U.S. International Trade Commission: Sales[1] (mil. dol.)	
		Shipments, including interplant transfers (mil. dol.)		Commercial shipments only (mil. dol.)			
		1977	1972	1977	1972	1977	1972
28651 --	Cyclic intermediates	4,084.4	1,538.0	3,103.3	1,151.7	2,596.6	1,433.9
28652 --	Synthetic organic dyes	722.1	473.6	712.5	464.5	690.0	479.7
28653 --	Synthetic organic pigments, lakes, and toners	414.5	224.7	351.8	180.3	267.7	149.3
28655 --	Cyclic (coal tar) crudes	250.9	80.9	220.2	74.8	(D)	(D)
28693 --	Synthetic organic chemicals, n.e.c.:[2]						
28693 13	Flavor and perfume materials unmixed	419.3	123.4	409.8	116.3	207.1	88.4
28693 15	Flavor and perfume materials, mixed						
28693 31	Rubber processing chemicals	418.5	228.2	403.4	190.8	277.8	177.6
28693 51	Plasticizers	738.8	362.6	671.2	306.3	632.3	290.6
28694 --	Pesticides and other organic agricultural chemicals	1,474.0	489.3	1,268.5	434.1	2,808.3	1,091.7
28696 --	Miscellaneous end-use chemcials and chemical products, excluding urea	15,495.2	5,900.2	12,213.2	4,524.4	10,463.3	4,680.2
28697 --	Miscellaneous cyclic and acyclic chemicals and chemical products						

(D) Withheld to avoid disclosing operations of individual companies.
[1] U.S. International Trade Commission in annual reports, Synthetic Organic Chemicals, United States Production and Sales, for 1977 and 1972.
[2] For 1977, excludes $29.3 million in "Synthetic Organic Chemicals, n.e.c., n.s.k.;" for 1972, excludes $8.8 million.

Texas, accounting for approximately 55 percent of the industry's 1977 employment. Data for West Virginia have been withheld to avoid disclosing operations of individual companies.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 2869, INDUSTRIAL ORGANIC CHEMICALS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of industrial organic chemicals, not elsewhere classified. Important products of this industry include (1) noncyclic organic chemicals such as acetic, chloroacetic, adipic, formic, oxalic and tartaric acids and their metallic salts; chloral, formaldehyde, and methylamine; (2) solvents such as amyl, butyl, and ethyl alcohols; methanol; amyl, butyl and ethyl acetates; ethel ether, ethylene glycol ether and diethylene glycol ether; acetone, carbon disulfide and chlorinated solvents such as carbon tetrachloride, perchloroethylene and tricholoethylene; (3) polyhydric alcohols such as ethylene glycol, sorbitol, pentaerythritol, and synthetic glycerin; (4) synthetic perfume and flavoring materials such as coumarin, methyl salicylate, saccharin, citral, citronellal, synthetic geraniol, ionone, terpeineol, and synthetic vanillin; (5) rubber processing chemicals such as accelerators and antioxidants, both cyclic and acyclic; (6) placticizers, both cyclic and acyclic, such as esters of phosphoric acid, phthalic anhydride, adipic acid, lauric acid, oleic acid, sebacic acid, and stearic acid; (7) synthetic tanning agents such as naphthalene sulfonic acid condensate; (8) chemical warfare gases; and (9) esters, amines, etc., of polyhydric alcohols and fatty and other acids.

Establishments primarily engaged in the manufacture of plastics materials and nonvulcanizable elastomers are classified in industry 2821; synthetic rubber in industry 2822; essential oils in industry 2899; wood distillation products, naval stores, and natural dyeing and tanning materials in industry 2861; rayon and other synthetic fibers in industries 2823 and 2824; specialty cleaning, polishing, and sanitation preparations in industry 2842; paints in industry 2851; urea in industry 2873; organic pigments in industry 2865; and inorganic pigments in industry 2816. Distilleries engaged in the manufacture of grain alcohol for beverage purposes are classified in industry 2085.

No attempt was made by the Bureau of the Census to secure commodity detail for synthetic organic chemicals, since this information is compiled and published by the U.S. International Trade Commission (ITC) in Synthetic Organic Chemicals, United States Production and Sales. Direct comparisons between the product-class data reported to the Census Bureau and the product information reported to the ITC should be used carefully, since the statistics published by the ITC do not show all products produced by chemical plants as distinguished from products produced by petroleum refineries or others. However, in order to provide the data user with as much information as possible, table A presents value of shipments (including interplant transfers) and commercial shipments as published by the Census Bureau, and value of sales as published by the ITC, for 1977 and 1972. For the value of product groupings comprising industry 2869, see table 6a, product codes 28693 13 to 28697 13.

The total value of shipments for establishments classified in the Industrial Organic Chemicals, N.E.C. industry amounted to $24,233 million in 1977, an increase of 163 percent from 1972. The value of shipments of products classified as primary to the industry was $19,378 million, an increase of 158 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $10,476 million in 1977, was 100 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 112.3 thousand employees, an increase of 10 percent from 1972. The leading States in employment were Texas, Louisiana, West Virginia, and New Jersey, accounting for approximately 55 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2861, GUM AND WOOD CHEMICALS																
1977 Census--	100	119	37	4.8	54.0	3.8	7.8	38.9	185.0	205.3	391.3	27.0	(NA)	65.7	76	67
1976 ASM[6] ---	(NA)	(NA)	(NA)	4.7	47.2	3.7	7.4	35.0	147.2	210.8	364.8	32.0	184.6	71.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	4.6	42.6	3.7	6.7	31.9	130.2	196.4	314.2	12.6	162.1	76.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	5.1	44.5	4.2	7.8	34.0	199.5	220.8	403.3	10.0	148.8	64.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	5.5	46.6	4.1	8.6	33.5	181.1	176.6	355.4	15.2	210.6	57.4	(NA)	(NA)
1972 Census--	118	139	41	5.9	47.6	4.7	9.4	33.5	155.4	175.9	332.3	11.1	203.1	52.2	70	75
1971 ASM----	(NA)	(NA)	(NA)	5.2	40.8	4.1	8.2	28.5	143.0	144.7	279.4	10.5	167.9	49.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	5.3	37.9	4.2	8.4	26.8	116.3	144.0	261.7	8.9	165.3	39.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	5.8	36.0	4.7	9.3	25.6	102.3	130.0	228.5	9.3	152.8	47.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	5.7	35.0	4.4	8.7	24.2	117.2	114.8	233.3	13.7	147.8	45.8	(NA)	(NA)
1967 Census--	172	184	42	5.9	33.5	4.6	9.0	23.1	100.8	115.3	215.9	20.6	139.2	46.3	73	76
1966 ASM[6] ---	(NA)	(NA)	(NA)	5.0	31.5	3.8	7.9	21.4	99.2	109.6	208.7	6.6	(NA)	43.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	5.8	32.1	4.3	8.8	21.9	92.6	112.3	206.2	4.4	(NA)	46.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	6.4	32.4	5.0	10.1	22.4	102.3	116.9	222.0	4.9	118.1	48.9	(NA)	(NA)
1963 Census--	229	246	53	6.8	32.7	5.4	10.8	22.9	100.3	114.6	212.9	5.6	115.2	53.7	74	77
INDUSTRY 2865, CYCLIC CRUDES AND INTERMEDIATES																
1977 Census--	135	191	127	35.7	631.5	23.4	46.6	369.8	2 214.4	3 453.6	5 637.0	443.1	(NA)	844.4	68	67
1976 ASM----	(NA)	(NA)	(NA)	27.8	441.8	17.9	35.8	262.6	1 798.7	2 956.6	4 677.7	443.6	3 345.4	706.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	27.8	406.1	17.9	36.4	242.4	1 353.8	2 442.6	3 819.2	432.0	3 111.4	613.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	27.6	365.0	18.4	38.3	222.6	1 465.3	2 078.3	3 413.3	319.9	2 504.3	625.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	29.5	348.0	19.0	39.4	207.1	1 140.3	1 266.0	2 426.4	200.8	2 356.3	375.1	(NA)	(NA)
1972 Census--	123	174	118	28.2	318.2	18.7	38.4	191.1	929.7	1 110.3	2 049.6	158.8	2 174.8	356.0	76	65
1971 ASM----	(NA)	(NA)	(NA)	30.0	315.9	20.0	41.7	195.3	965.4	1 037.4	1 967.6	279.6	2 237.9	371.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	30.2	293.6	19.9	41.3	176.7	855.1	960.3	1 804.0	283.2	2 010.8	317.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	30.9	289.8	20.8	43.8	179.2	840.7	975.3	1 799.9	140.4	1 805.4	304.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	30.2	265.1	20.5	42.2	164.1	774.6	938.6	1 716.1	99.3	1 695.2	277.0	(NA)	(NA)
1967 Census--	115	177	107	30.0	251.1	20.3	41.7	152.9	729.5	874.5	1 596.8	136.1	1 612.6	261.8	73	66
1966 ASM----	(NA)	(NA)	(NA)	29.2	240.4	20.1	42.6	150.1	741.7	826.3	1 556.3	88.4	(NA)	247.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	29.6	232.3	19.9	41.6	141.9	682.3	788.5	1 456.3	91.9	(NA)	232.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	28.2	211.3	18.7	38.5	128.5	621.1	668.3	1 289.6	103.5	1 116.4	209.0	(NA)	(NA)
1963 Census--	120	141	84	27.7	201.9	18.9	38.6	124.8	605.3	634.1	1 212.8	106.8	1 047.8	211.0	(NA)	(NA)
INDUSTRY 2869, INDUSTRIAL ORGANIC CHEMICALS, N.E.C.																
1977 Census--	388	569	346	112.3	2 108.7	70.7	145.7	1 216.5	10 475.7	13 948.8	24 232.8	3 162.6	(NA)	2 942.7	69	84
1976 ASM----	(NA)	(NA)	(NA)	109.3	1 859.2	68.7	139.0	1 059.0	9 402.6	11 546.5	20 642.6	2 208.8	15 442.9	2 518.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	104.9	1 630.3	64.8	129.7	904.2	8 027.4	9 126.7	16 923.3	1 675.2	13 086.8	2 222.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	102.5	1 489.6	65.6	134.8	847.3	7 659.9	8 309.7	15 538.9	1 259.5	11 415.2	1 944.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	102.8	1 332.4	66.1	135.5	778.1	5 582.3	5 045.8	10 665.9	789.6	10 692.0	1 148.0	(NA)	(NA)
1972 Census--	349	514	295	102.4	1 248.6	64.5	129.9	713.0	4 988.0	4 228.2	9 223.5	661.7	10 113.0	1 078.1	r72	85
1971 ASM----	(NA)	(NA)	(NA)	100.2	1 140.7	63.8	129.1	649.5	4 530.8	3 656.0	8 214.3	659.4	9 409.7	1 044.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	104.2	1 099.7	66.4	135.9	629.1	4 225.4	3 607.0	7 739.7	738.1	9 007.9	1 053.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	101.6	1 023.0	65.7	137.4	597.4	3 976.6	3 374.6	7 253.2	711.7	8 263.0	936.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	98.6	925.4	63.6	131.8	545.4	3 818.6	3 154.6	6 965.8	884.8	7 716.0	817.1	(NA)	(NA)
1967 Census--	339	488	268	95.1	844.9	62.4	126.4	499.8	3 575.3	2 849.0	6 377.8	781.2	6 882.3	801.1	72	81
1966 ASM----	(NA)	(NA)	(NA)	95.7	833.4	63.6	129.0	491.6	3 641.5	2 953.1	6 541.1	886.2	(NA)	770.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	91.6	768.0	61.3	125.2	462.5	3 471.7	2 615.7	6 012.5	641.2	(NA)	687.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	87.1	714.0	57.0	117.6	428.6	2 990.9	2 297.1	5 265.3	496.4	(NA)	587.0	(NA)	(NA)
1963 Census--	343	464	241	85.5	677.3	56.4	114.4	405.0	2 727.5	2 105.7	4 840.2	401.0	(NA)	552.8	72	81

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2861, GUM AND WOOD CHEMICALS											
1977 Census--	11 346	(NA)	79	2 063	5.01	52	66	(NA)	38 905	29	23.83
1976 ASM----	10 042	39 276	78	2 000	4.72	57	70	50	31 319	32	19.89
1975 ASM----	9 260	35 239	80	1 810	4.76	62	76	51	28 304	32	19.43
1974 ASM----	8 725	29 176	82	1 857	4.35	54	65	36	39 117	22	25.57
1973 ASM----	8 472	38 290	74	2 097	3.89	49	62	59	32 927	25	21.05
1972 Census--	8 067	34 423	79	2 000	3.56	52	67	61	26 338	30	16.53
1971 ASM----	7 846	32 288	78	2 000	3.48	51	66	60	27 500	29	17.44
1970 ASM----	7 150	31 188	79	2 000	3.19	55	69	63	21 943	32	13.84
1969 ASM----	6 206	26 344	81	1 978	2.75	56	72	66	17 637	35	11.00
1968 ASM----	6 140	25 929	77	1 977	2.78	49	64	63	20 561	29	13.47
1967 Census--	5 677	23 593	77	1 956	2.56	53	68	64	17 084	33	11.20
1966 ASM----	6 300	(NA)	76	2 078	2.70	52	67	(NA)	19 840	31	12.55
1965 ASM----	5 534	(NA)	74	2 046	2.48	54	70	(NA)	15 965	34	10.52
1964 ASM----	5 062	18 453	78	2 020	2.21	52	67	53	15 984	31	10.12
1963 Census--	4 808	16 941	79	2 000	2.12	53	69	54	14 750	32	9.28
INDUSTRY 2865, CYCLIC CRUDES AND INTERMEDIATES											
1977 Census--	17 695	(NA)	65	1 992	7.93	61	72	(NA)	62 049	28	47.49
1976 ASM----	15 892	120 338	64	2 000	7.33	63	72	71	64 701	24	50.24
1975 ASM----	14 607	111 920	64	2 033	6.65	63	74	81	48 697	29	37.19
1974 ASM----	13 224	90 735	66	2 081	5.81	60	71	73	53 090	24	38.25
1973 ASM----	11 796	79 874	64	2 073	5.25	52	66	97	38 654	30	28.94
1972 Census--	11 283	77 120	66	2 053	4.97	54	69	106	32 968	34	24.21
1971 ASM----	10 530	74 596	66	2 085	4.68	52	68	113	32 180	32	23.15
1970 ASM----	9 721	66 582	65	2 075	4.27	53	69	111	28 314	34	20.70
1969 ASM----	9 378	58 427	67	2 105	4.09	54	70	100	27 207	34	19.19
1968 ASM----	8 778	56 132	67	2 058	3.88	54	70	98	25 649	34	18.35
1967 Census--	8 370	53 753	67	2 054	3.66	54	70	100	24 316	34	17.49
1966 ASM----	8 232	(NA)	68	2 119	3.52	53	68	(NA)	25 400	32	17.41
1965 ASM----	7 847	(NA)	67	2 090	3.41	54	70	(NA)	23 050	34	16.40
1964 ASM----	7 492	39 588	66	2 058	3.33	51	68	86	22 024	34	16.13
1963 Census--	7 288	37 826	68	2 042	3.23	52	68	86	21 851	33	15.68
INDUSTRY 2869, INDUSTRIAL ORGANIC CHEMICALS, N.E.C.											
1977 Census--	18 774	(NA)	62	2 061	8.35	57	66	(NA)	93 267	20	71.91
1976 ASM----	17 010	141 289	62	2 023	7.61	55	64	74	86 025	19	67.64
1975 ASM----	15 541	124 755	61	2 001	6.97	53	63	77	76 524	20	61.89
1974 ASM----	14 532	111 367	64	2 054	6.28	53	63	73	74 730	19	56.82
1973 ASM----	12 961	104 007	64	2 049	5.74	47	59	100	54 302	23	41.19
1972 Census--	12 193	98 759	62	2 013	5.48	45	59	109	48 710	25	38.39
1971 ASM----	11 384	93 909	63	2 023	5.03	44	58	114	45 217	25	35.09
1970 ASM----	10 553	86 448	63	2 046	4.62	46	60	116	40 550	26	31.09
1969 ASM----	10 068	81 328	64	2 091	4.34	46	60	113	39 139	25	28.94
1968 ASM----	9 385	78 255	64	2 072	4.13	45	58	110	38 728	24	28.97
1967 Census--	8 884	72 369	65	2 025	3.95	44	57	107	37 595	23	28.28
1966 ASM----	8 708	(NA)	66	2 028	3.81	45	57	(NA)	38 051	22	28.22
1965 ASM----	8 384	(NA)	66	2 042	3.69	43	56	(NA)	37 900	22	27.72
1964 ASM----	8 197	(NA)	65	2 063	3.64	43	57	(NA)	34 338	23	25.43
1963 Census--	7 921	(NA)	65	2 028	3.54	43	57	(NA)	31 900	24	23.84

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2861, GUM AND WOOD CHEMICALS													
United States	-	**119**	**37**	**4.8**	**54.0**	**3.8**	**7.8**	**38.9**	**185.0**	**205.3**	**391.3**	**27.0**	**5.9**	**155.4**
West North Central Division:													
Missouri	E1	24	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
North Dakota	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
West Virginia	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Georgia	-	8	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Florida	-	9	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East South Central Division:														
Kentucky	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Arkansas	-	7	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E3	16	2	0.2	1.8	0.1	0.3	1.4	4.7	4.4	9.0	0.7	(NA)	(NA)
Pacific Division:														
Oregon	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
INDUSTRY 2865, CYCLIC CRUDES AND INTERMEDIATES														
United States	-	**191**	**127**	**35.7**	**631.5**	**23.4**	**46.6**	**369.8**	**2 214.4**	**3 453.6**	**5 637.0**	**443.1**	**28.2**	**929.7**
New England Division:														
Massachusetts	E1	6	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Rhode Island	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Connecticut	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Middle Atlantic Division:														
New York	-	12	6	2.8	44.6	1.9	3.5	28.4	142.5	100.0	242.3	(D)	2.6	49.1
New Jersey	-	42	30	12.3	237.7	8.6	16.7	141.8	605.6	805.5	1 402.9	(D)	8.3	234.0
Pennsylvania	-	14	9	1.6	23.8	1.0	2.2	14.1	110.8	178.2	288.6	(D)	1.8	50.3
East North Central Division:														
Ohio	-	13	10	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois	-	16	10	2.6	46.9	1.7	3.4	29.1	156.4	269.3	423.7	40.4	2.6	78.5
Michigan	-	4	3	0.7	7.9	0.4	0.8	5.8	21.0	38.6	58.9	2.0	CC	(D)
South Atlantic Division:														
Delaware	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Maryland	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West Virginia	-	7	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
North Carolina	-	7	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Carolina	-	8	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East South Central Division:														
Kentucky	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Alabama	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Louisiana	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Texas	-	13	10	2.7	57.6	1.6	3.4	27.5	440.5	716.9	1 143.4	58.2	EE	(D)
Pacific Division:														
California	-	8	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
INDUSTRY 2869, INDUSTRIAL ORGANIC CHEMICALS, N.E.C.														
United States	-	**569**	**346**	**112.3**	**2 108.7**	**70.7**	**145.7**	**1 216.5**	**10 475.7**	**13 948.8**	**24 232.8**	**3 162.6**	**102.4**	**4 988.0**
New England Division:														
New Hampshire	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Massachusetts	-	10	5	1.2	21.5	0.7	1.5	12.4	48.4	75.9	122.4	3.3	AA	(D)
Rhode Island	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Connecticut	-	13	8	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Middle Atlantic Division:														
New York	-	39	23	4.2	72.4	2.4	5.1	33.0	225.1	226.2	445.6	(D)	6.1	158.6
New Jersey	-	73	45	7.7	138.1	5.1	10.8	83.6	512.3	810.8	1 320.7	59.8	13.1	448.2
Pennsylvania	-	23	13	4.3	72.2	2.7	5.3	41.2	171.2	370.2	552.0	22.3	2.0	32.9
East North Central Division:														
Ohio	-	31	17	2.9	52.0	1.8	3.6	30.6	275.9	376.2	634.2	50.4	3.1	99.6
Indiana	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois	-	28	11	2.0	32.2	1.3	2.3	19.7	177.1	184.1	354.8	30.4	EE	(D)
Michigan	-	20	13	7.6	141.8	4.7	9.0	79.5	401.9	348.9	736.7	91.7	FF	(D)
Wisconsin	-	11	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West North Central Division:														
Iowa	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Missouri	-	11	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Kansas	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2869, INDUSTRIAL ORGANIC CHEMICALS, N.E.C.—Con.														
South Atlantic Division:														
Delaware	-	4	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	5	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West Virginia	-	14	13	8.8	155.0	6.4	13.0	108.0	637.1	771.7	1 396.0	140.7	9.4	549.6
North Carolina	-	14	8	0.7	10.7	0.4	0.9	5.1	60.5	62.4	115.6	(D)	CC	(D)
South Carolina	-	12	9	1.1	15.5	0.7	1.5	8.6	99.1	97.9	193.1	8.3	0.6	26.8
Georgia	-	15	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Florida	-	6	4	1.1	18.9	0.7	1.8	11.6	76.6	76.0	148.0	20.0	CC	(D)
East South Central Division:														
Kentucky	-	11	11	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Tennessee	-	12	8	6.2	104.2	3.8	7.7	56.2	196.4	517.1	712.4	(D)	FF	(D)
Alabama	-	9	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	25.3
West South Central Division:														
Arkansas	-	6	4	0.8	12.5	0.6	1.3	7.6	80.1	95.7	169.9	(D)	(NA)	(NA)
Louisiana	-	32	28	15.6	319.1	10.0	21.9	192.5	1 643.9	2 663.1	4 259.0	928.8	FF	(D)
Texas	-	72	51	29.3	617.3	17.4	35.8	340.3	4 316.3	5 385.0	9 647.0	1 421.3	23.9	1 843.4
Mountain Division:														
Colorado	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
California	-	42	19	3.6	69.3	1.9	3.5	28.5	214.1	341.6	555.2	29.7	EE	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Gum and wood chemicals (SIC 2861)	Cyclic crudes and intermediates (SIC 2865)	Industrial organic chemicals, n.e.c. (SIC 2869)
Primary product specialization ratio[1]	percent	76	68	69
Coverage ratio[2]	do	67	67	84
All establishments	number	119	191	569
With 1 to 19 employees	do	82	64	223
With 20 to 99 employees	do	24	58	164
With 100 employees or more	do	13	69	182
All employees, average for year	1,000	4.8	35.7	112.3
Payroll for year, all employees	mil. dol.	54.0	631.5	2 108.7
Production workers:				
Average for year	1,000	3.8	23.4	70.7
March	do	3.6	23.5	69.7
May	do	3.9	23.7	70.2
August	do	3.9	23.3	71.5
November	do	3.7	23.1	71.1
Hours	millions	7.8	46.6	145.7
January to March	do	1.8	11.9	35.9
April to June	do	2.0	11.9	36.5
July to September	do	2.0	11.4	36.7
October to December	do	1.9	11.4	36.6
Wages	mil. dol.	38.9	369.8	1 216.5
Cost of materials, etc.	do	205.3	3 453.6	13 948.8
Materials, parts, containers, etc., consumed	do	179.6	2 925.0	11 405.5
Resales	do	1.6	113.6	420.5
Fuels consumed	do	18.9	271.8	1 393.9
Purchased electric energy	do	4.7	113.1	452.8
Contract work	do	0.5	30.1	276.0
Value of shipments, including resales	do	391.3	5 637.0	24 232.8
Value of resales	do	3.7	127.2	496.1
Value added by manufacture	do	185.0	2 214.4	10 475.7
Manufacturers' inventories:				
Beginning of year	do	63.6	784.2	2 591.5
Finished products	do	40.6	350.9	1 247.3
Work in process	do	2.3	165.7	474.7
Materials, supplies, fuel, etc.	do	20.7	267.7	869.4
End of year	do	65.7	844.4	2 942.7
Finished products	do	40.4	391.7	1 419.7
Work in process	do	1.6	155.8	494.1
Materials, supplies, fuel, etc.	do	23.8	296.9	1 028.9
Capital expenditures for plant and equipment	do	34.7	448.6	3 189.5
New capital expenditures	do	27.0	443.1	3 162.6
New buildings and other structures	do	10.8	52.6	447.7
New machinery and equipment	do	16.2	390.5	2 714.9
Used capital expenditures	do	7.7	5.5	26.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Gum and wood chemicals (SIC 2861)		Cyclic crudes and intermediates (SIC 2865)		Industrial organic chemicals, n.e.c. (SIC 2869)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	(1.0)	15	10.0	3	37.2	5
Response coverage ratio[2] (percent)	82	(X)	78	(X)	65	(X)
Machinery	(7.6)	27	49.4	4	321.7	1
Response coverage ratio[2] (percent)	98	(X)	87	(X)	66	(X)
Cost of purchased communication services	(0.5)	55	5.1	5	26.5	14
Response coverage ratio[2] (percent)	78	(X)	85	(X)	67	(X)
Rental payments	1.4	6	19.1	1	85.9	1
Buildings and other structures	(Z)	(A)	5.2	1	14.8	4
Machinery and equipment	1.3	6	13.9	1	71.2	1
Supplemental labor costs	10.7	2	141.3	1	471.8	1
Legal costs	4.2	2	47.0	1	132.1	1
Voluntary costs	6.5	3	94.3	1	339.7	1
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	28.2	5	593.0	2	2,173.0	1
New capital expenditures	10.2	6	53.0	5	442.0	1
Used capital expenditures	2.0	1	2.1	1	7.1	2
Retirements	-	(X)	22.5	6	36.4	1
End of year	40.4	5	625.6	2	2,585.7	1
Machinery and equipment:						
Beginning of year	146.9	4	3,289.0	1	14,308.0	1
New capital expenditures	14.4	1.0	388.0	1	2,413.6	1
Automobiles, trucks, etc., for highway use[3]	(0.2)	(A)	(1.4)	(A)	(5.9)	(A)
Computers and peripheral data processing equipment[3]	(0.1)	(A)	(0.5)	(A)	(4.5)	(A)
All other[3]	(12.3)	(A)	331.7	6	2,127.6	1
New machinery and equipment, n.s.k.[4]	(1.7)	(A)	(54.5)	37	275.6	7
Used capital expenditures	6.2	6	3.4	11	19.1	1
Retirements	(0.7)	28	128.0	1	312.9	1
End of year	166.8	4	3,552.4	1	16,427.7	1
Total gross value of depreciable assets:						
Beginning of year	175.1	4	3,882.0	1	16,481.0	1
New capital expenditures	24.6	8	441.0	1	2,855.6	1
Used capital expenditures	8.2	4	5.5	7	26.2	1
Retirements	(0.7)	29	150.5	1	349.3	1
End of year	207.2	4	4,177.9	1	19,013.4	.1
Depreciation charges during 1977	11.5	4	276.7	1	1,174.5	1
Buildings and other structures	1.8	3	31.9	5	139.1	1
Machinery and equipment	9.7	4	244.8	1	1,035.4	1

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2861, GUM AND WOOD CHEMICALS												
Total	-	**119**	**4.8**	**54.0**	**3.8**	**7.8**	**38.9**	**185.0**	**205.3**	**391.3**	**27.0**	**65.7**
Establishments with an average of—												
1 to 4 employees	E8	49	0.1	1.0	0.1	0.2	0.7	3.2	4.2	7.4	(7.8)	1.3
5 to 9 employees	E4	15	0.1	1.0	0.1	0.2	0.8	4.1	6.3	10.4	(D)	1.3
10 to 19 employees	E3	18	0.3	2.5	0.2	0.4	1.8	6.3	12.3	19.0	0.8	3.4
20 to 49 employees	-	14	0.5	4.7	0.4	0.8	3.5	17.0	16.7	33.3	1.1	8.2
50 to 99 employees	-	10	0.7	6.2	0.5	1.2	4.8	26.6	29.9	55.8	(17.5)	10.7
100 to 249 employees	-	10	(3.2)	(38.5)	(2.5)	(5.0)	(27.3)	(127.8)	(135.9)	(265.4)	(D)	(40.8)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	54	0.2	2.0	0.2	0.3	1.5	6.0	7.6	13.6	1.1	2.5
INDUSTRY 2865, CYCLIC CRUDES AND INTERMEDIATES												
Total	-	**191**	**35.7**	**631.5**	**23.4**	**46.6**	**369.8**	**2 214.4**	**3 453.6**	**5 637.0**	**443.1**	**844.4**
Establishments with an average of—												
1 to 4 employees	E9	22	(Z)	0.5	(Z)	(Z)	0.3	0.7	3.3	5.0	0.5	0.7
5 to 9 employees	E4	17	0.1	2.0	0.1	0.2	1.1	1.2	20.3	21.5	1.0	2.4
10 to 19 employees	E4	25	0.3	5.0	0.2	0.4	2.7	18.4	33.4	51.3	6.0	8.5
20 to 49 employees	-	34	1.1	16.4	0.7	1.5	10.0	81.8	159.2	242.2	7.4	28.2
50 to 99 employees	-	24	1.7	27.5	1.1	2.3	14.9	96.8	213.5	304.2	23.0	41.5
100 to 249 employees	-	29	4.1	66.0	2.6	5.3	36.9	240.6	395.3	628.6	55.1	109.2
250 to 499 employees	-	23	7.9	131.4	4.7	9.8	75.4	462.0	940.1	1 390.4	80.6	237.6
500 to 999 employees	-	11	7.6	137.6	5.0	9.7	77.2	650.4	979.2	1 632.5	112.1	174.7
1,000 to 2,499 employees	-	6	(12.8)	(245.2)	(9.0)	(17.5)	(151.4)	(662.5)	(709.3)	(1 361.3)	(157.4)	(241.5)
Covered by administrative records[2]	E0	35	0.2	3.7	0.2	0.3	2.2	10.5	19.4	29.8	2.7	4.5
INDUSTRY 2869, INDUSTRIAL ORGANIC CHEMICALS, N.E.C.												
Total	-	**569**	**112.3**	**2 108.7**	**70.7**	**145.7**	**1 216.5**	**10 475.7**	**13 948.8**	**24 232.8**	**3 162.6**	**2 942.7**
Establishments with an average of—												
1 to 4 employees	E4	117	0.2	2.9	0.1	0.3	1.7	13.8	21.7	35.7	2.8	4.5
5 to 9 employees	E4	56	0.4	6.4	0.3	0.5	3.7	25.9	38.6	64.0	4.5	8.3
10 to 19 employees	E2	50	0.7	11.4	0.4	0.9	5.8	46.0	68.9	118.6	6.9	14.5
20 to 49 employees	-	83	2.7	42.3	1.6	3.4	21.6	180.6	259.6	440.6	68.3	47.1
50 to 99 employees	-	81	5.9	97.4	3.4	6.9	50.6	498.4	752.7	1 241.3	98.9	176.1
100 to 249 employees	-	80	13.2	223.5	8.2	17.2	126.7	1 023.3	1 540.1	2 539.2	188.6	352.7
250 to 499 employees	-	46	16.8	308.1	10.6	22.8	180.5	1 652.5	2 730.9	4 358.7	732.4	467.1
500 to 999 employees	-	30	20.2	390.1	13.3	27.2	236.8	1 874.5	2 339.7	4 178.7	265.8	433.5
1,000 to 2,499 employees	-	22	(52.3)	(1 026.5)	(32.6)	(66.7)	(589.3)	(5 160.6)	(6 196.8)	(11 256.1)	(1 794.4)	(1 438.9)
2,500 employees or more	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	130	0.5	8.8	0.3	0.6	5.0	29.1	37.3	66.4	7.2	8.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2861	**Gum and wood chemicals:**										
	Entire industry	119	4.8	54.0	3.8	7.8	38.9	185.0	205.3	391.3	27.0
	Establishments with 75 percent specialization or more	106	2.9	26.1	2.4	4.9	20.2	87.7	98.9	186.0	9.4
28611	Softwood distillation products:										
	Establishments with this product class primary	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	7	0.3	3.7	0.2	0.5	2.9	9.1	9.5	18.3	1.0
28612	Other gum and wood chemicals:										
	Establishments with this product class primary	46	2.9	27.9	2.3	4.7	20.7	104.4	125.4	229.9	8.7
	Establishments with 75 percent specialization or more in class	36	2.3	19.0	1.9	3.9	14.9	66.4	75.4	141.6	(D)
2865	**Cyclic crudes and intermediates:**										
	Entire industry	191	35.7	631.5	23.4	46.6	369.8	2 214.4	3 453.6	5 637.0	443.1
	Establishments with 75 percent specialization or more	145	15.4	245.3	9.7	19.4	140.4	822.2	1 678.0	2 495.2	175.1
28651	Cyclic intermediates:										
	Establishments with this product class primary	58	20.5	400.2	13.4	26.9	227.9	1 549.1	2 523.0	4 059.4	342.3
	Establishments with 75 percent specialization or more in class	28	4.6	87.4	2.6	5.6	45.1	390.3	971.9	1 376.4	113.9
28652	Synthetic organic dyes:										
	Establishments with this product class primary	32	8.7	129.2	5.8	11.5	80.8	394.9	414.2	795.9	64.4
	Establishments with 75 percent specialization or more in class	24	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28653	Synthetic organic pigments, lakes, and toners:										
	Establishments with this product class primary	31	4.8	72.3	3.0	5.7	42.0	177.9	255.3	426.2	20.0
	Establishments with 75 percent specialization or more in class	21	2.3	30.2	1.4	2.8	19.3	83.0	109.4	186.0	9.8
28655	Cyclic (coal tar) crudes:										
	Establishments with this product class primary	19	1.3	23.0	0.9	2.0	15.1	72.3	223.1	296.5	12.0
	Establishments with 75 percent specialization or more in class	14	0.6	9.7	0.4	0.9	6.9	48.0	99.3	147.2	7.4
2869	**Industrial organic chemicals, n.e.c.:**										
	Entire industry	569	112.3	2 108.7	70.7	145.7	1 216.5	10 475.7	13 948.8	24 232.8	3 162.6
	Establishments with 75 percent specialization or more	434	48.2	861.6	31.0	62.4	509.7	4 247.0	6 406.4	10 602.4	1 435.8
28693	Synthetic organic chemicals, n.e.c.:										
	Establishments with this product class primary	65	9.2	159.0	5.7	11.9	86.9	583.6	878.7	1 445.5	65.9
	Establishments with 75 percent specialization or more in class	40	3.1	50.9	2.1	4.2	28.2	213.1	308.6	518.6	17.9
28694	Pesticides and other organic agricultural chemicals:										
	Establishments with this product class primary	21	7.7	143.4	5.4	10.8	91.2	947.7	709.0	1 666.1	132.4
	Establishments with 75 percent specialization or more in class	10	1.8	32.1	1.3	2.5	20.9	401.1	282.0	689.1	34.7
28695	Ethyl alcohol and other industrial organic chemicals, n.e.c.:										
	Establishments with this product class primary	62	5.4	80.9	3.1	6.0	40.9	311.3	358.4	659.7	87.6
	Establishments with 75 percent specialization or more in class	45	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28696	Miscellaneous end-use chemicals and chemical products,: except urea:										
	Establishments with this product class primary	45	17.9	316.2	11.3	23.4	182.9	1 020.2	1 607.3	2 606.5	169.6
	Establishments with 75 percent specialization or more in class	20	3.6	61.8	2.4	4.7	38.9	265.2	440.2	708.1	35.1
28697	Miscellaneous cyclic and acyclic chemicals and chemical: products:										
	Establishments with this product class primary	180	70.4	1 381.2	44.1	91.5	798.8	7 526.2	10 273.5	17 647.1	2 688.2
	Establishments with 75 percent specialization or more in class	99	17.0	320.8	10.9	22.4	194.1	1 706.8	3 344.2	5 029.2	479.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2861	Gum and wood chemicals.....1977..	391.3	291.4	94.0	5.9	76	436.1	291.4	144.7	67
	1972..	332.3	226.9	97.6	7.8	70	300.8	226.9	73.9	75
	1967..	215.9	155.9	56.3	3.8	73	205.1	155.9	49.2	76
2865	Cyclic crudes and intermediates.....1977..	5,637.0	3,699.9	1,769.7	167.3	68	5,514.3	3,699.9	1,814.4	67
	1972..	r2,049.6	r1,510.8	469.5	69.3	76	r2,337.5	r1,510.8	826.7	65
	1967..	1,569.8	1,092.1	412.7	91.9	73	1,654.2	1,092.1	562.0	66
2869	Industrial organic chemicals, n.e.c.....1977..	24,232.8	16,238.9	7,327.8	666.1	69	19,377.6	16,238.9	3,138.7	84
	1972..	r9,223.5	r6,359.2	2,527.6	336.7	r72	r7,510.1	r6,359.2	1,150.9	85
	1967..	6,377.8	4,461.2	1,705.2	211.4	72	5,539.4	4,461.2	1,078.3	81

n.e.c. Not elsewhere classified. rRevised.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous recipts	All industries	Gum and wood chemicals (SIC 2861)	Cyclic crudes and intermediates (SIC 2865)	Industrial organic chemicals, n.e.c. (SIC 2869)	Other industries
	Total	(X)	391.3	5,637.0	24,232.8	(X)
	Primary products	(X)	291.4	3,699.9	16,238.9	(X)
	Secondary products	(X)	94.0	1,769.8	7,327.8	(X)
	Miscellaneous receipts	(X)	5.9	167.3	666.1	(X)
2861-	Gum and wood chemicals	436.1	291.4	-	(D)	(D)
28611	Softwood distillation products	123.0	93.2	-	-	29.8
28612	Other gum and wood chemicals	289.0	174.7	-	(D)	(D)
28610	Gum and wood chemicals, n.s.k.	24.1	23.4	-	-	0.7
2865-	Cyclic crudes and intermediates	5,514.3	-	3,699.9	1,166.9	647.5
28651	Cyclic intermediates	4,084.4	-	2,438.4	1,124.1	521.9
28652	Synthetic organic dyes	722.1	-	595.5	(D)	(D)
28653	Synthetic organic pigments, lakes, and toners	414.5	-	373.7	(D)	(D)
28655	Cyclic (coal tar) crudes	250.9	-	(D)	-	(D)
28650	Cyclic crudes and intermediates, n.s.k.	42.4	-	(D)	-	(D)
2869-	Industrial organic chemicals, n.e.c.	19,377.6	(D)	(D)	16,238.9	2,400.2
28693	Synthetic organic chemicals, n.e.c.	1,600.5	-	121.4	1,247.4	231.7
28694	Pesticides and other organic agricultural chemicals	1,474.0	(D)	(D)	1,194.0	181.9
28695	Ethyl alcohol and other industrial organic chemicals, n.e.c.	645.9	(D)	(D)	541.4	(D)
28696	Miscellaneous end-use chemicals and chemical products, excluding urea	2,070.5	-	21.4	1,900.5	148.5
28697	Miscellaneous cyclic and acyclic chemicals and chemical products	13,424.7	(D)	(D)	11,197.8	1,733.9
28690	Industrial organic chemicals, n.e.c., n.s.k.	162.1	(D)	-	157.7	(D)
	Other shipments by 4-digit product group:					
1321-	Natural gas liquids	(X)	-	-	(D)	(X)
2022-	Cheese, natural and processed	(X)	-	-	(D)	(X)
2035-	Pickles, sauces, and salad dressings	(X)	-	-	(D)	(X)
2048-	Prepared feeds, n.e.c.	(X)	-	-	(D)	(X)
2085-	Distilled liquor, except brandy	(X)	-	-	(D)	(X)
2611-	Pulp mills	(X)	-	-	(D)	(X)
2812-	Alkalies and chlorine	(X)	-	(D)	(D)	(X)
2813-	Industrial gases	(X)	-	(D)	(D)	(X)
2816-	Inorganic pigments	(X)	-	66.6	(D)	(X)
2819-	Industrial inorganic chemicals, n.e.c.	(X)	(D)	(D)	(D)	(X)
2821-	Plastics materials and resins	(X)	24.1	384.4	1,820.4	(X)
2822-	Synthetic rubber	(X)	-	(D)	404.7	(X)
2824-	Organic fibers, noncellulosic	(X)	-	-	(D)	(X)
2831-	Biological products	(X)	-	-	(D)	(X)
2833-	Medicinals and botanicals	(X)	-	(D)	(D)	(X)
2834-	Pharmaceutical preparations	(X)	-	-	(D)	(X)
2842-	Polishes and sanitation goods	(X)	-	(D)	(D)	(X)
2843-	Surface active agents	(X)	(D)	(D)	251.2	(X)
2844-	Toilet preparations	(X)	-	(D)	(D)	(X)
2851-	Paints and allied products	(X)	(D)	16.7	(D)	(X)
2873-	Nitrogenous fertilizers	(X)	(D)	(D)	(D)	(X)
2874-	Phosphatic fertilizers	(X)	-	-	(D)	(X)
2879-	Agricultural chemicals, n.e.c.	(X)	-	(D)	(D)	(X)
2891-	Adhesives and sealants	(X)	(D)	(D)	(D)	(X)
2892-	Explosives	(X)	-	-	(D)	(X)
2893-	Printing ink	(X)	-	(D)	-	(X)
2899-	Chemical preparations, n.e.c.	(X)	(D)	(D)	198.8	(X)
2911-	Petroleum refining	(X)	-	(D)	1,329.1	(X)
2952-	Asphalt felts and coatings	(X)	-	(D)	-	(X)
2992-	Lubricating oils and greases	(X)	-	-	(D)	(X)
3079-	Miscellaneous plastics products	(X)	-	(D)	(D)	(X)
3291-	Abrasive products	(X)	-	(D)	-	(X)
3551-	Food products machinery	(X)	-	-	(D)	(X)
3679-	Electronic components, n.e.c.	(X)	-	(D)	-	(X)
3693-	X-ray, electromedical and electrotheraputic apparatus.	(X)	-	-	(D)	(X)
3832-	Optical instruments and lenses	(X)	-	-	(D)	(X)
	Miscellaneous receipts:					
93000 00	Contract work	(X)	(D)	34.0	156.1	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(D)	7.3	(X)
99980 41	Receipts for research and developmental work	(X)	(Z)	-	(D)	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	(D)	(D)	(X)
99989 00	Resales	(X)	3.7	127.2	496.1	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
2861-	2611 Pulpmills	(D)	2869-	2821 Plastics materials and resins	(D)
	2621 Paper mills, except building paper	23.9		2822 Synthetic rubber	108.8
	2631 Paperboard mills	45.9		2823 Cellulosic manmade fibers	(D)
	2821 Plastics materials and resins	(D)		2824 Organic fibers, noncellulosic	(D)
	2899 Chemical preparations, n.e.c	22.2		2833 Medicinals and botanicals	(D)
2865-	2812 Alkalies and chlorine	(D)		2834 Pharmaceutical preparations	(D)
	2816 Inorganic pigments	(D)		2841 Soap and other detergents	(D)
	2819 Industrial inorganic chemicals, n.e.c	53.8		2842 Polishes and sanitation goods	(D)
	2821 Plastics materials and resins	110.2		2843 Surface active agents	(D)
	2824 Organic fibers, noncellulosic	(D)		2844 Toilet preparations	(D)
	2834 Pharmaceutical preparations	(D)		2873 Nitrogenous fertilizers	165.4
	2843 Surface active agents	(D)		2879 Agricultural chemicals, n.e.c	(D)
	2873 Nitrogenous fertilizers	(D)		2891 Adhesives and sealants	27.8
	2879 Agricultural chemicals, n.e.c	(D)		2899 Chemical preparations, n.e.c	(D)
	2911 Petroleum refining	110.2		2911 Petroleum refining	241.8
2869-	2046 Wet corn milling	(D)		3011 Tires and inner tubes	(D)
	2812 Alkalies and chlorine	(D)		3079 Miscellaneous plastics products	(D)
	2816 Inorganic pigments	(D)		3861 Photographic equipment and supplies	(D)
	2819 Industrial inorganic chemicals, n.e.c	163.1		3999 Manufacturing industries, n.e.c	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes[1]	Product shipments[1] Quantity[2]	Product shipments[1] Value (million dollars)	Quantity of production for all purposes	Product shipments Quantity	Product shipments Value (million dollars)
	GUM AND WOOD CHEMICALS								
2861- --	Total		(NA)	(X)	(X)	436.1	(X)	(X)	300.8
28611 --	Softwood distillation products		(NA)	(X)	(X)	123.0	(X)	(X)	94.1
28611 13	Wood turpentine[3] [4]	Million lb.	5				22.7	9.1	1.0
28611 23	Pine oil		4				57.6	64.9	11.7
28611 31	Wood rosin[4]		4				682.3	411.5	43.6
28611 96	Vegetable pitches, wood tar, and wood tar oil	Million lb.	-	(S)	(S)	121.9			
28611 98	Other derivatives of softwood distillation, including charcoal and charcoal briquets		6				(X)	(X)	37.8
28611 00	Softwood distillation products, n.s.k.		(NA)	(X)	(X)	1.1			
28612 --	Other gum and wood chemicals		(NA)	(X)	(X)	289.0	(X)	(X)	197.0
	Gum naval stores		(NA)	42.1	40.6	6.4	(X)	(X)	6.7
28612 11	Gum turpentine	1,000 50-gal. barrels.	2	8.0	9.8	1.0	(S)	(S)	4.1
28612 21	Rosin	1,000 517-lb. drums.	6	34.1	30.8	5.4	30.3	29.8	2.6
	Hardwood distillation products		(NA)	(X)	(X)	135.5	(X)	(X)	80.5
28612 52	Charcoal, excluding briquets	1,000 s. tons.	4	(S)	(S)	(D)	(S)	(S)	(D)
28612 55	Charcoal briquets, including blends with lignite or other materials	1,000 s, tons.	8	643.1	633.7	121.2	531.4	526.7	61.7
28612 61	Other derivatives of hardwood distillation, including natural acetic acid and methanol[5]		3	(X)	(X)	(D)	(X)	(X)	(D)
28612 85	Natural tanning and chrome tanning mixtures, including tannic acid		4	(X)	(X)	4.3	(X)	(X)	5.4
28612 87	Natural dyeing materials		1						
	Tall oils		(NA)	(X)	(X)	139.9	(X)	(X)	96.4
28612 91	Crude	Million lb.	37	1,841.1	957.6	79.1	1,131.0	[6]911.5	[6]44.2
28612 94	Refined (containing less than 90 percent free fatty acids, including tall oil resins other than tall oil rosin)[7]		9	122.0	100.8	15.5	413.5	[6]394.4	[6]19.5
28612 96	Rosin	Million lb.	10	292.9	213.3	29.1	257.0	[6]245.0	[6]32.7
28612 98	Other tall oil derivatives, including rosin acid salts, except tall oil fatty acids		3	(X)	(X)	16.2	(X)	([6])	([6])
28612 00	Other gum and wood chemicals, n.s.k.		(NA)	(X)	(X)	2.8	(X)	(X)	7.8
28610 00	Gum and wood chemicals, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	(X)	10.4	(X)	(X)	3.8
28610 02	Gum and wood chemicals, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	(X)	13.7	(X)	(X)	5.9

1977 product code	Product	1977 Number of companies with shipments of $100,000 or more	1977 Product shipments including interplant transfers[1] Total (million dollars)	Commercial shipments (million dollars)	Interplant transfers (million dollars)	1972 Product shipments including interplant transfers Total (million dollars)	Commercial shipments (million dollars)	Interplant transfers (million dollars)
	CYCLIC CRUDES AND INTERMEDIATES[8]							
2865- --	Total	(NA)	5,514.3	(X)	(X)	[r]2,337.5	(X)	(X)
28651 --	Cyclic intermediates:							
28651 11	Cyclic (coal tar) intermediates[9]	85	4,084.4	3,103.3	981.1	1,538.0	1,151.7	386.3
28652 --	Synthetic organic dyes:							
28652 11	Synthetic organic dyes	40	722.1	712.5	9.6	473.6	464.5	9.1
28653 --	Synthetic organic pigments, lakes, and toners:							
28653 11	Synthetic organic pigments, lakes, and toners	34	414.5	351.8	62.7	224.7	180.3	44.4

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977			1972		
		Number of companies with shipments of $100,000 or more	Product shipments including interplant transfers[1]		Product shipments including interplant transfers		
			Total (million dollars)	Commercial shipments (million dollars)	Total (million dollars)	Commercial shipments (million dollars)	Interplant transfers (million dollars)
	CYCLIC CRUDES AND INTERMEDIATES[8]--Con.						
28655 --	Cyclic (coal tar) crudes:						
28655 11	Tar, tar crudes, and tar pitches[10]	12	250.9	220.2	80.9	74.8	6.1
28650 00	Cyclic crudes and intermediates, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	12.6	(X)	r13.6	(X)	(X)
28650 02	Cyclic crudes and intermediates, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	29.8	(X)	6.7	(X)	(X)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes, including further manufacture	Product shipments[1]			
					Quantity[2]	Value (million dollars)	Commercial shipments (million dollars)	Interplant transfers (million dollars)
			1977					
	INDUSTRIAL ORGANIC CHEMICALS, N.E.C.							
2869- --	Total		(NA)	(X)	(X)	19,377.6	(X)	(X)
28693 --	Synthetic organic chemicals, n.e.c.		(NA)	(X)	(X)	1,600.5	(X)	(X)
	Flavor and perfume materials:[8]							
28693 13	Chemical compounds for use as flavor and perfume materials, unmixed		28	(X)	(X)	293.6	409.8	9.5
28693 15	Chemical compounds for use as flavor and perfume materials, mixed		15	(X)	(X)	125.7		
28693 31	Rubber processing chemicals[8]		31	(X)	(X)	418.5	403.4	15.1
28693 51	Plasticizers[8]		49	(X)	(X)	738.8	671.2	67.6
28693 00	Synthetic organic chemicals, n.e.c., n.s.k.		(NA)	(X)	(X)	23.9	(X)	(X)
28694 --	Pesticides and other synthetic organic agricultural chemicals, except preparations:							
28694 11	Pesticides and other synthetic organic agricultural chemicals, except preparations[8]		69	(X)	(X)	1,474.0	1,268.5	205.6
28695 --	Ethyl alcohol and other industrial organic chemicals, n.e.c.		(NA)	(X)	(X)	645.9	(X)	(X)
	Ethyl alcohol:[11] [12]							
28695 11	Pure (natural)	Million proof gallons.	6	96.4	59.6	69.5	(D)	(D)
28695 21	Denatured (special or complete), including natural and synthetic for uses other than rubbing	Million wine gallons.	9	**110.9	**102.4	99.9	(D)	(D)
28695 31	Flavor oil mixtures and blends	Million lb	11	10.2	10.1	55.0	(D)	(D)
28695 37	Reagent and high purity grades of organic chemicals refined from purchased technical grades		10	(X)	(X)	38.0	(D)	(D)
	Natural organic chemicals, n.e.c.:							
28695 53	Derivatives of fatty substances, including salts, alcohols, and esters, except plasticizers and surface active agents		11	(X)	(X)	28.1	(D)	(D)
28695 55	Other natural organic chemicals, n.e.c.		12	(X)	(X)	88.9	(D)	(D)
28695 98	Other industrial organic chemicals, n.e.c.		42	(X)	(X)	232.6	(D)	(D)
28695 00	Ethyl alcohol and other industrial organic chemicals, n.e.c., n.s.k.		(NA)	(X)	(X)	33.8	(X)	(X)
28696 --	Miscellaneous end-use chemicals and chemical products:							
28696 11	Miscellaneous end-use chemicals and chemical products, excluding urea[8] [13]		81	(X)	(X)	2,070.5	1,724.7	345.8
28697 --	Miscellaneous cyclic and acyclic chemicals and chemical products:							
28697 13	Miscellaneous cyclic and acyclic chemicals and chemical products[8] [13]		138	(X)	(X)	13,424.7	10,488.5	2,936.2
28690 00	Industrial organic chemicals, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	(X)	95.7	(X)	(X)
28690 02	Industrial organic chemicals, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	(X)	66.4	(X)	(X)

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes, including further manufacture	Product shipments[1]		Commercial shipments (million dollars)	Interplant transfers (million dollars)
					Quantity[2]	Value (million dollars)		
			1972					
	INDUSTRIAL ORGANIC CHEMICALS, N.E.C.--Con.							
2869- --	Total		(X)	(X)	(X)	r7,510.1	(X)	(X)
28691 --	Miscellaneous cyclic chemicals and chemical products:							
28691 11	Miscellaneous cyclic chemicals and chemical products[8 13]		(X)	(X)	(X)	465.0	417.0	48.0
28692 --	Miscellaneous acyclic chemicals and chemical products:							
28692 13	Miscellaneous acyclic chemicals and chemical products, excluding urea[8 13]		(X)	(X)	(X)	5,435.2	4,107.4	1,327.8
28693 --	Synthetic organic chemicals, n.e.c.		(X)	(X)	(X)	723.0	(X)	(X)
28693 11	Flavor and perfume materials[8]		(X)	(X)	(X)	123.4	116.3	7.1
28693 31	Rubber processing chemicals[8]		(X)	(X)	(X)	228.2	190.8	37.4
28693 51	Plasticizers[8]		(X)	(X)	(X)	362.6	306.5	56.1
28693 00	Synthetic organic chemicals, n.e.c., n.s.k.		(X)	(X)	(X)	8.8	(X)	(X)
28694 --	Pesticides and other synthetic organic agricultural chemicals, except preparations:							
28694 11	Pesticides and other synthetic organic agricultural chemicals, except preparations[8]		(X)	(X)	(X)	489.3	434.1	55.2
28695 --	Ethyl alcohol and other industrial organic chemicals, n.e.c.		(X)	(X)	(X)	280.3	(X)	(X)
	Ethyl alcohol:[11 12]							
28695 11	Pure (natural)	Million proof gallons.	(X)	(S)	(S)	35.0	(D)	(D)
28695 21	Denatured (special or complete), including natural and synthetic for uses other than rubbing	Million wine gallons.	(X)	(S)	(S)	42.6	(D)	(D)
28695 31	Flavor oil mixtures and blends	Thousand lb.	(X)	(S)	(S)	34.7	34.7	-
28695 37	Reagent and high purity grades of organic chemicals refined from purchased technical grades		(X)	(X)	(X)	23.0	22.0	1.0
	Natural organic chemicals, n.e.c.:							
28695 53	Derivatives of fatty substances, including salts, alcohols and esters, except plasticizers and surface active agents		(X)	(X)	(X)	60.4	(D)	(D)
28695 55	Other natural organic chemicals, n.e.c.		(X)	(X)	(X)	78.8	(D)	(D)
28695 98	Other industrial organic chemicals, n.e.c.		(X)					
28695 00	Ethyl alcohol and other industrial organic chemicals, n.e.c., n.s.k.		(X)	(X)	(X)	5.6	(X)	(X)
28690 00	Industrial organic chemicals, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)		(X)	(X)	(X)	r102.6	(X)	(X)
28690 02	Industrial organic chemicals, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)		(X)	(X)	(X)	14.7	(X)	(X)

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Excludes sulfate wood turpentine.

[4]Excludes pinene reported as such.

[5]Excludes synthetic acetic acid and synthetic methanol, which data are included in product code 28697 13.

[6]For 1972, product code 28612 98 was not collected; quantity and value are implicitly included in product codes 28612 91, 28612 94, and 28612 96.

[7]Data for refined tall oil fatty acids containing 90 percent free fatty acids or more, excluding resin acids, are reported in Industry 2899, Chemical Preparation, N.E.C.

[8]Additional product detail for many synthetic organic chemicals in this industry is shown in U.S. International Trade Commission's Annual Report, Synthetic Organic Chemcials: U.S. Production and Sales.

Footnotes continued on next page.

[9] Includes products grouped by U.S. International Trade Commission in annual report, Synthetic Organic Chemicals: U.S. Production and Sales, Section III, Cyclic Intermediates. Also included are cumene, cyclohexane, ethybenzene, stryene, m-xylene, o-xylene and p-xylene, as grouped in Section II, Primary Products from Petroleum and Natural Gas for Chemical Conversion.

[10] Represents value of shipments reported by tar distillers, but excludes shipment values for tar, tar crudes, and tar pitches reported by establishments classified in Industry 3312, Blast Furnaces and Steel Mills, and Industry 2911, Petroleum Refining.

[11] For additional quantity information, see U.S. Treasury Department, Internal Revenue Service publication, Alcohol and Tobacco, for 1977 and 1972.

[12] Excludes shipments reported as rubbing alcohol (primary to Industry 2834, Pharmaceutical Preparations) and as antifreeze (primary to Industry 2899, Chemical Preparations, N.E.C.).

[13] 1977 product codes 28696 11 and 28697 13 were formed from a regrouping of 1972 product codes 28691 11 and 28692 13; former two and latter two codes are comparable in total only. Change was made to maintain comparability with sections of U.S. International Trade Commission Report, Synthetic Organic Chemicals: U.S. Production and Sales, which were similarly revised in 1976. See sections XIV and XV of 1976 report for a discussion of this change.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28612, OTHER GUM AND WOOD CHEMICALS		
United States	289.0	197.0
East North Central Division:		
Wisconsin	7.3	BB
West North Central Division:		
Missouri	31.6	EE
South Atlantic Division:		
Virginia	6.8	4.0
South Carolina	17.8	EE
Georgia	39.1	39.3
Florida	46.7	FF
East South Central Division:		
Alabama	18.0	10.2
Mississippi	10.8	EE
West South Central Division:		
Arkansas	6.9	AA
Louisiana	17.4	16.6
Texas	9.1	4.9
28651, CYCLIC INTERMEDIATES		
United States	4,084.4	1,538.0
Middle Atlantic Division:		
New York	67.2	37.6
New Jersey	369.0	220.5
Pennsylvania	191.5	89.5
East North Central Division:		
Ohio	114.9	31.1
Illinois	192.3	96.2
West North Central Division:		
Missouri	14.1	EE
South Atlantic Division:		
West Virginia	224.4	GG
South Carolina	69.5	AA
East South Central Division:		
Tennessee	154.6	82.9
West South Central Division:		
Louisiana	248.1	65.6
Texas	1,448.6	425.4
Pacific Division:		
California	51.4	18.8
28652, SYNTHETIC ORGANIC DYES		
United States	722.1	473.6
Middle Atlantic Division:		
New York	88.3	77.5
New Jersey	290.7	221.7
South Atlantic Division:		
North Carolina	56.3	2.8
28653, SYNTHETIC ORGANIC PIGMENTS, LAKES, AND TONERS		
United States	414.5	224.7
Middle Atlantic Division:		
New Jersey	153.8	GG
Pennsylvania	10.8	BB
East North Central Division:		
Ohio	77.7	42.0
28655, CYCLIC (COAL TAR) CRUDES		
United States	250.9	80.9
East North Central Division:		
Ohio	43.0	FF
28693, SYNTHETIC ORGANIC CHEMICALS, N.E.C.		
United States	1,600.5	723.0
Middle Atlantic Division:		
New York	117.4	40.5
New Jersey	445.4	173.4
Pennsylvania	96.1	34.6
East North Central Division:		
Illinois	89.6	38.2
Michigan	36.7	4.6
Wisconsin	3.5	BB
South Atlantic Division:		
West Virginia	152.5	109.5
North Carolina	14.6	5.7
East South Central Division:		
Tennessee	75.4	54.4
West South Central Division:		
Texas	29.0	27.2
Pacific Division:		
California	6.6	FF
28694, PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS		
United States	1,474.0	489.3
Middle Atlantic Division:		
New Jersey	121.4	38.8
East South Central Division:		
Alabama	126.4	52.3
West South Central Division:		
Texas	121.7	GG
Pacific Division:		
California	24.8	BB
28695, ETHYL ALCOHOL AND OTHER INDUSTRIAL ORGANIC CHEMICALS, N.E.C.		
United States	645.9	280.3
Middle Atlantic Division:		
New York	37.7	EE
New Jersey	78.6	45.7
Pennsylvania	47.2	FF
East North Central Division:		
Indiana	9.8	BB
Illinois	87.4	41.8
Michigan	14.5	(NA)
Wisconsin	11.1	6.6
South Atlantic Division:		
South Carolina	21.4	11.5
Georgia	14.6	6.2
Pacific Division:		
California	51.1	31.1
28696, MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS, EXCLUDING UREA		
United States	2,070.5	(NA)
East North Central Division:		
Ohio	195.0	(NA)
South Atlantic Division:		
West Virginia	111.8	(NA)
North Carolina	4.0	(NA)
East South Central Division:		
Kentucky	27.6	(NA)
West South Central Division:		
Texas	320.5	(NA)
Pacific Division:		
California	105.9	(NA)

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments		Product class and geographic area	Value of product shipments	
	1977	1972		1977	1972
28697, MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS AND CHEMICAL PRODUCTS			28697, MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS AND CHEMICAL PRODUCTS--Con.		
United States	13,424.7	(NA)	South Atlantic Division--Con.		
			South Carolina	101.2	(NA)
Middle Atlantic Division:			Florida	170.0	(NA)
New York	191.9	(NA)			
New Jersey	677.8	(NA)	East South Central Division:		
Pennsylvania	177.5	(NA)	Kentucky	521.0	(NA)
			Tennessee	209.6	(NA)
East North Central Division:			Mississippi	7.3	(NA)
Ohio	254.4	(NA)			
Illinois	106.4	(NA)	West South Central Division:		
Michigan	314.2	(NA)	Arkansas	90.7	(NA)
Wisconsin	31.0	(NA)	Louisiana	2,231.7	(NA)
			Texas	6,359.5	(NA)
South Atlantic Division:					
West Virginia	696.1	(NA)	Pacific Division:		
North Carolina	53.8	(NA)	California	314.8	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972[2]	1967[2]	1963[2]
2861-	Gum and wood chemicals	436.1	336.8	325.8	427.7	331.3	300.8	205.1	197.0
28611	Softwood distillation products	123.0	95.9	93.8	109.8	101.2	94.1	81.4	82.4
28612	Other gum and wood chemicals	289.0	268.6	255.7	313.4	219.5	197.0	111.6	111.4
28610	Gum and wood chemicals, n.s.k	24.1	([3])	([3])	4.5	10.6	9.7	12.2	3.2
2865-	Cyclic crudes and intermediates	5,514.3	5,230.7	4,202.6	4,141.2	2,763.9	[r]2,337.5	1,654.2	1,195.2
28651	Cyclic intermediates	4,084.4	3,935.8	3,160.9	3,010.9	1,874.1	1,538.0	1,066.1	758.6
28652	Synthetic organic dyes	722.1	661.0	506.2	572.6	510.1	473.6	325.6	243.1
28653	Synthetic organic pigments, lakes, and toners	414.5	400.8	304.0	332.6	273.1	224.7	162.2	111.7
28655	Cyclic (coal tar) crudes	250.9	(223.0)	225.0	215.8	85.9	80.9	87.6	79.3
28650	Cyclic crudes and intermediates, n.s.k	42.4	(10.1)	(6.5)	9.3	(20.7)	[r]20.3	12.7	2.5
2869-	Industrial organic chemicals, n.e.c	19,377.6	16,794.5	14,099.0	12,742.8	8,548.3	[r]7,510.1	5,539.4	4,183.8
28693	Synthetic organic chemicals, n.e.c	1,600.5	1,528.7	1,166.1	1,234.1	879.8	723.0	585.6	426.8
28694	Pesticides and other organic agricultural chemicals	1,474.0	1,208.1	1,135.1	978.4	617.0	489.3	308.2	223.4
28695	Ethyl alcohol and other industrial organic chemicals, n.e.c	645.9	962.8	798.5	613.9	364.7	280.3	239.4	192.3
28696	Miscellaneous end-use chemicals and chemical products, excluding urea	2,070.5							
28697	Micellaneous cyclic and acyclic chemicals and chemical products	13,424.7	12,977.2	10,900.5	9,828.1	6,581.7	5,900.2	4,367.2	3,329.6
28690	Industrial organic chemicals, n.e.c., n.s.k	162.1	(117.7)	(98.8)	(88.3)	105.1	[r]117.3	38.7	11.6

n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. [r] Revised.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Industry 2869, prior to 1972, includes values for urea. Due to revisions to Standard Industrial Classification product classes, urea became product code 28732 15 in 1972.

[3]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedure in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity[1]	1972 Delivered cost (million dollars)
	INDUSTRY 2861, GUM AND WOOD CHEMICALS						
	Materials, containers, and supplies	.....	.....	(X)	179.6	(X)	161.1
281944	Hydrochloric acid	100% HCL	1,000 s. tons	(D)	(D)		
281930	Sulfuric acid	100% H_2SO_4		(D)	(D)		
281238	Sodium hydroxide (caustic soda)	100% NaOH		7.6	.7		
281246	Potassium hydroxide	88-92% KOH	1,000 s. tons	(D)	(D)		
286102	Tall oil and rosin	.....	Million lb	277.5	21.0		
289921	Fatty acids	.....		(D)	(D)		
284141	Glycerine	100%		1.8	.9		
286920	Alcohols, including amyl, butyl, methyl, and propyl, excluding ethyl alcohol	.....	Million lb	(D)	(D)		
242011	Chips, slabs, edging, shavings, sawdust, and other wood waste	.....	.....	(X)	33.9	(X)	[2]161.1
121101	Lignite, raw or prepared, used as a raw material	.....	.....	(X)	(D)		
	Containers:						
307940	Plastic	.....	.....	(X)	(D)		
322101	Glass	.....	.....	-	-		
260091	Paper and paperboard containers, including shipping sacks	.....	.....	(X)	10.4		
340001	Metal	.....	.....	(X)	2.5		
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	81.4		
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	22.6		

1977 material code	Material	Basis	Unit of measure	Total consumption of materials (quantity)	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant (quantity)
				1977			
	INDUSTRY 2865, CYCLIC CRUDES AND INTERMEDIATES						
	Materials, containers, and supplies	.....	.....	(X)	(X)	2,925.0	(X)
	Inorganic chemicals:						
	Acids, except spent acids:						
281944	Hydrochloric acid	100% HCl	1,000 s. tons	69.1	53.3	4.5	15.8
281946	Hydrofluoric acid	100% HF		(D)	(D)	(D)	(D)
287311	Nitric acid	100% HNO_3		(D)	257.3	31.5	(D)
287410	Phosphoric acid	100% P_2O_5		5.6	5.6	2.1	-
281931	Sulfuric acid	100% H_2SO_4		539.7	344.2	21.9	195.5
287312	Ammonia, synthetic anhydrous	100% NH_3		158.9	158.9	18.3	-
281211	Chlorine	100% Cl		735.8	421.6	45.6	314.2
281996	Phosphorus, elemental	Technical		(D)	(D)	(D)	(D)
281228	Sodium carbonate (soda ash)	58% Na_2O		(D)	42.1	4.1	(D)
281238	Sodium hydroxide (caustic soda)	100% NaOH	1,000 s. tons	441.7	362.8	56.0	78.9
281301	Acetylene and other industrial gases, compressed and liquefied, including argon, carbon dioxide, nitrogen, nitrous oxides, etc	.....	.....	(X)	(X)	13.7	(X)
	Organic chemicals:						
286952	Alcohol, ethyl (pure and denatured)	.....	.....	(X)	(X)	3.9	(X)
286957	Other alcohols, including amyl, butyl, methyl, and propyl	.....	Million gal	76.8	76.8	22.7	-
286511	Aniline	100%	Million lb	(D)	286.5	68.5	(D)
286519	Tuolene and xylene	100%		2,324.1	2,324.1	182.9	-
286512	Nitrobenzene	100%		601.0	4.5	1.1	596.5
286513	Phenol	100%		60.2	56.3	12.5	3.9
286501	Ortho-xylene	100%		(D)	(D)	(D)	(D)
286502	Para-xylene	100%		(D)	(D)	(D)	(D)
286509	Ethylbenzene	100%		(D)	(D)	(D)	(D)
286552	Benzol (benzene)	100% C_6H_8	Million lb	1,758.9	1,758.9	188.7	-
286553	Tar, crude	.....	1,000 s. tons	1,630.1	1,630.1	133.0	-
286514	Phthalic anhydride	100%	Million lb	(D)	18.5	5.2	(D)
286555	Naphthalene grades of 77.5°C or higher	.....		37.3	37.3	6.7	-
286923	Formaldehyde	37% HCHO		(D)	155.7	7.4	(D)
291167	Butadiene	100%		(D)	(D)	(D)	(D)
	Liquefied petroleum and refinery gases used as raw material or feedstock:						
291161	Ethane and ethylene	.....		321.1	321.1	40.2	-
291162	Propane and propylene	.....					
291163	Butane, butylene, and isobutane	.....		2,188.2	2,188.2	196.1	-
291160	Other, including mixtures and still gas	.....	Million lb				
131152	Natural gas used as raw material	.....	Bil. cu. ft	1.3	1.3	3.0	-
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding plastics sheets, rods, and other shapes	.....	Million lb	5.0	5.0	2.4	-

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Total consumption of materials (quantity)	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant (quantity)
				1977--Con.			
	INDUSTRY 2865, CYCLIC CRUDES AND INTERMEDIATES--Con.						
	Crude materials:						
333348	Zinc and zinc-base alloy refinery shapes	.....	1,000 s. tons	(X)	(D)	(D)	(X)
147701	Sulfur	.....	1,000 l. tons	(X)	148.3	8.7	(X)
355911	Parts and attachments for machinery and equipment	.....	.....	(X)	(X)	67.6	(X)
265001	Paperboard boxes and containers	.....	.....	(X)	(X)	21.5	(X)
340001	Metal containers	.....	.....	(X)	(X)	26.9	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	(X)	1,438.6	(X)
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	(X)	135.9	(X)
				1972			
	INDUSTRY 2865, CYCLIC CRUDES AND INTERMEDIATES						
	Materials, containers, and supplies	.....	.....	(X)	(X)	944.3	(X)
	Inorganic chemicals:						
	Acids, except spent acids:						
281944	Hydrochloric acid	100% HCl....	1,000 s. tons	50.8	43.5	2.0	7.3
281946	Hydrofluoric acid	100% HF.....		(NA)	(NA)	(4)	(NA)
287311	Nitric acid	100% HNO_3...		589.5	101.4	7.2	488.1
287410	Phosphoric acid	100% P_2O_5...		(NA)	(NA)	(4)	(NA)
281931	Sulfuric acid	100% H_2SO_4..		800.7	331.0	9.3	469.7
287312	Ammonia, synthetic anhydrous	100% NH_3....		191.9	191.9	7.4	-
281211	Chlorine	100% Cl.....		(D)	331.8	16.4	(D)
281996	Phosphorus, elemental	Technical...		(NA)	(NA)	(4)	(NA)
281228	Sodium carbonate (soda ash)	58% Na_2O....		42.0	42.0	2.2	-
281238	Sodium hydroxide (caustic soda)	100% NaOH...	1,000 s. tons	474.3	474.3	20.7	-
281301	Acetylene and other industrial gases, compressed and liquefied, including argon, carbon dioxide, nitrogen, nitrous oxide, etc	.....	.....	(X)	(X)	(4)	(X)
	Organic chemicals:						
286952	Alcohol, ethyl (pure and denatured)	.....	.....	(X)	(X)	1.0	(X)
286957	Other alcohols, including amyl, butyl, methyl, and propyl	.....	Million gal..	53.7	53.7	9.3	-
286511	Aniline	100%.....	Million lb...	(NA)	79.7	12.0	(NA)
286519	Tuolene and xylene	100%.....		(NA)	(NA)	(4)	(NA)
286512	Nitrobenzene	100%.....		438.9	12.0	.3	426.9
286513	Phenol	100%.....		61.9	46.4	3.4	15.5
286501	Ortho-xylene	100%.....		(NA)	(NA)	(4)	(NA)
286502	Para-xylene	100%.....		(NA)	(NA)	(4)	(NA)
286509	Ethylbenzene	100%.....		(NA)	(NA)	(4)	(NA)
286552	Benzol (benzene)	100% C_6H_8...	Million lb...	(D)	1,100.3	35.2	(D)
286553	Tar, crude	.....	1,000 s. tons	(S)	1,299.5	38.1	(S)
286514	Phthalic anhydride	100%.....	Million lb...	19.2	19.2	1.8	-
286555	Naphthalene grades of 77.5°C or higher	.....		213.5	(D)	(D)	(D)
286923	Formaldehyde	37% HCHO....		77.1	77.1	2.2	-
291167	Butadiene	100%.....		(NA)	(NA)	(4)	(NA)
	Liquefied petroleum and refinery gases used as raw material or feedstock:						
291161	Ethane and ethylene	.....					
291162	Propane and propylene	.....					
291163	Butane, butylene, and isobutane	.....		(D)	(D)	(D)	(D)
291160	Other, including mixtures and still gas	.....	Million lb...				
131152	Natural gas used as raw material	.....	Bil. cu. ft..	(X)	3.6	1.5	(X)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding plastics sheets, rods, and other shapes	.....	Million lb...	(NA)	(NA)	(4)	(NA)
	Crude materials:						
333348	Zinc and zinc-base alloy refinery shapes	.....	1,000 s. tons	(X)	.7	.3	(X)
147701	Sulfur	.....	1,000 l. tons	(X)	163.5	4.4	(X)
355911	Parts and attachments for machinery and equipment	.....	.....	(X)	(X)	29.4	(X)
265001	Paperboard boxes and containers	.....	.....	(X)	(X)	(4)	(X)
340001	Metal containers	.....	.....	(X)	(X)	(4)	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	(X)	4630.9	(X)
971000	Materials, containers, and supplies, n.s.k.[3]	.....	.....	(X)	(X)	41.0	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Total consumption of materials (quantity)	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant (quantity)
				1977			
	INDUSTRY 2869, INDUSTRIAL ORGANIC CHEMICALS, N.E.C.						
	Materials, parts, containers, and supplies	.....	.....	(X)	(X)	11,405.5	(X)
	Inorganic chemicals:						
	Acids, except spent acids:						
281944	Hydrochloric acid	100% HCl	1,000 s. tons	1,849.6	394.6	153.0	1,455.0
281946	Hydrofluoric acid	100% HF		(D)	79.9	46.7	(D)
287311	Nitric acid	100% HNO_3		143.2	143.2	20.3	-
287410	Phosphoric acid	100% P_2O_5		(D)	43.1	10.1	(D)
281931	Sulfuric acid	100% H_2SO_4		2,125.9	1,158.6	46.9	967.3
287312	Ammonia, synthetic anhydrous	100% NH_3		1,821.5	971.8	116.0	849.7
281211	Chlorine	100% Cl		7,377.5	1,801.6	170.6	5,575.9
281996	Phosphorus, elemental	Technical		40.5	40.5	31.3	-
281228	Sodium carbonate (soda ash)	58% Na_2O		69.6	63.6	5.8	6.0
281238	Sodium hydroxide (caustic soda)	100% NaOH	1,000 s. tons	2,015.5	1,033.1	179.9	982.4
281301	Acetylene and other industrial gases, compressed and liquefied, including argon, carbon dioxide, nitrogen, nitrous oxide, etc	.....	.....	(X)	(X)	80.2	(X)
	Organic chemicals:						
286952	Alcohol, ethyl (pure and denatured)	.....	.....	(X)	(X)	73.0	(X)
286957	Other alcohols, including amyl, butyl, methyl, and propyl	.....	Million gal..	1,248.9	385.0	284.4	863.9
286511	Aniline	100%	Million lb...	171.5	171.5	55.9	-
286519	Tuolene and xylene	100%		(D)	690.4	54.6	(D)
286512	Nitrobenzene	100%		(D)	(D)	(D)	-
286513	Phenol	100%		(D)	632.0	107.2	(D)
286501	Ortho-xylene	100%		253.0	253.0	29.1	-
286502	Para-xylene	100%		(D)	727.6	65.7	(D)
286509	Ethylbenzene	100%					
286552	Benzol (benzene)	100% C_6H_6	Million lb...	(D)	2,780.5	291.7	(D)
286553	Tar, crude	.....	1,000 s. tons	(D)	(D)	(D)	(D)
286514	Phthalic anhydride	100%	Million lb...	361.6	163.6	40.5	198.0
286555	Naphthalene grades of 77.5°C or higher	.....		261.4	261.4	34.5	-
286923	Formaldehyde	37% HCHO		734.6	272.9	18.8	461.7
291167	Butadiene	100%		(D)	973.0	180.0	(D)
	Liquefied petroleum and refinery gases used as raw material or feedstock:						
291161	Ethane and ethylene	.....		18,327.4	12,047.3	1,067.4	6,280.1
291162	Propane and propylene	.....		12,843.9	10,183.9	718.6	2,660.0
291163	Butane, butylene, and isobutane	.....		(D)	3,486.9	250.5	(D)
291160	Other, including mixtures and still gas	.....	Million lb...	(D)	6,462.2	337.2	(D)
131152	Natural gas used as a raw material	.....	Bil. cu. ft..	(X)	301.7	188.9	(X)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding plastics sheets, rods, and other shapes	.....	Million lb...	979.6	92.7	24.0	886.9
	Crude materials:						
333348	Zinc and zinc-base alloy refinery shapes	.....	1,000 s. tons	(X)	5.8	4.9	(X)
147701	Sulfur	.....	1,000 l. tons	(X)	745.4	45.5	(X)
355911	Parts and attachments for machinery and equipment	.....	.....	(X)	(X)	317.8	(X)
265001	Paperboard boxes and containers	.....	.....	(X)	(X)	71.7	(X)
340001	Metal containers	.....	.....	(X)	(X)	115.6	(X)
970099	All other materials and components, parts, containers, and supplies[5]	.....	.....	(X)	(X)	5,996.0	(X)
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	.....	(X)	(X)	165.4	(X)
				1972			
	INDUSTRY 2869, INDUSTRIAL ORGANIC CHEMICALS, N.E.C.						
	Materials, parts, containers, and supplies	.....	.....	(X)	(X)	3,436.5	(X)
	Inorganic chemcials:						
	Acids, except spent acids:						
281944	Hydrochloric acid	100% HCl	1,000 s. tons	1,324.5	396.1	14.8	928.4
281946	Hydrofluoric acid	100% HF		144.6	(D)	(D)	(D)
287311	Nitric acid	100% HNO_3		982.4	221.2	15.9	761.2
287410	Phosphoric acid	100% P_2O_5		44.2	(D)	(D)	(D)
281931	Sulfuric acid	100% H_2SO_4		1,363.6	1,202.1	25.3	161.5
287312	Ammonia, synthetic anhydrous	100% NH_3		1,503.8	640.0	25.4	863.8
281211	Chlorine	100% Cl		6,903.6	1,789.3	76.4	5,114.3
281996	Phosphorus, elemental	Technical		59.8	(D)	(D)	(D)
281228	Sodium carbonate (soda ash)	58% Na_2O		56.7	(D)	(D)	(D)
281238	Sodium hydroxide (caustic soda)	100% NaOH	1,000 s. tons	1,742.9	793.6	38.3	949.3
281301	Acetylene and other industrial gases, compressed and liquefied, including argon, carbon dioxide, nitrogen, nitrous oxide, etc	.....	.....	(X)	(X)	[6]54.0	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Total consumption of materials (quantity)	Consumption of materials received from other establishments: Quantity	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant (quantity)
				1972--Con.			
	INDUSTRY 2869, INDUSTRY ORGANIC CHEMICALS, N.E.C.--Con.						
	Organic chemicals:						
286952	Alcohol, ethyl (pure and denatured)	.....	.....	(X)	(X)	39.8	(X)
286957	Other alcohols, including amyl, butyl, methyl, and propyl	.....	Million gal..	1,135.4	917.5	122.4	217.9
286511	Aniline	100%.....	Million lb...	(S)	122.6	15.9	(S)
286519	Tuolene and xylene	100%.....	↕	(X)	(X)	[6]42.0	(X)
286512	Nitrobenzene	100%.....	↕	464.2	(D)	(D)	(D)
286513	Phenol	100%.....	↕				
286501	Ortho-xylene	100%.....	↕	(X)	(X)	([7])	(X)
286502	Para-xylene	100%.....	↕	(X)	(X)	([7])	(X)
286509	Ethylbenzene	100%.....	↕	(X)	(X)	([7])	(X)
286552	Benzol (benzene)	100% C_6H_8....	Million lb...	3,168.6	2,793.0	80.0	375.6
286553	Tar, crude	.....	1,000 s. tons	(X)	(X)	([7])	(X)
286514	Phthalic anhydride	100%.....	Million lb...	443.7	151.9	11.2	291.8
286555	Naphthalene grades of 77.5°C or higher	.....	↕	612.8	612.8	27.8	-
286923	Formaldehyde	37% HCHO.....	↕	2,416.3	233.7	5.2	2,182.6
291167	Butadiene	100%.....	↕	(X)	(X)	([7])	(X)
	Liquefied petroleum and refinery gases used as raw material or feedstock:[8]						
291161	Ethane and ethylene	.....	↕				
291162	Propane and propylene	.....	↕	(NA)	16,086.3	481.0	(NA)
291163	Butane, butylene, and isobutane	.....	↕				
291160	Other, including mixtures and still gas	.....	Million lb...				
131152	Natural gas used as a raw material	.....	Bil. cu. ft..	(X)	241.9	64.8	(X)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding plastics sheets, rods, and other shapes	.....	Million lb...	(X)	(X)	[6]37.0	(X)
	Crude materials:						
333348	Zinc and zinc-base alloy refinery shapes	.....	1,000 s. tons	(X)	(X)	([7])	(X)
147701	Sulfur	.....	1,000 l. tons	(X)	462.7	13.1	(X)
355911	Parts and attachments for machinery and equipment	.....	.....	(X)	(X)	114.0	(X)
265001	Paperboard boxes and containers	.....	.....	(X)	(X)	[6]17.0	(X)
340001	Metal containers	.....	.....	(X)	(X)	[6]43.0	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	(X)	[7]2,096.9	(X)
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	.....	(X)	(X)	104.9	(X)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Detailed materials consumed data was not collected for 1972.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1972, material codes 281946, 287410, 281996, 281301, 286519, 286501, 286502, 286509, 291167, 282104, 265001, and 340001 were included with material code 970099.

[5]For industry 2869, supplemental data for code 970099 are presented in 1977 Census of Manufactures subject series report, Selected Materials Consumed.

[6]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[7]For 1972, material codes 286501, 286502, 286509, 286553, 291167, and 333348 were included with material code 970099.

[8]For 1972, liquefied refinery gases used for raw material or chemical foodstock were collected as follows:

1972 material code	Material	Basis	Unit of measure	Total consumption of materials (quantity)	Consumption of materials received from other establishments: Quantity	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant (quantity)
	Liquefied petroleum and refinery gases for chemical feedstock:						
291165	Ethylene	.....	Million lb...	11,275.9	4,788.9	154.9	6,487.0
291164	Propane	.....	↕	(NA)	7,791.6	98.2	(NA)
291166	Propylene	.....	↕	3,843.5	2,043.4	54.6	1,800.1
291169	Other, including mixtures	.....	Million lb...	(NA)	1,462.4	173.3	(NA)

Table 8. **Employees Engaged in Construction: 1977**

Industry	Total		Establishments reporting construction employees				Response coverage ratio C/A
			Total		Engaged in construction		
	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)	
	A	B	C	D	E	F	G
2865, Cyclic crudes and intermediates.....	35.7	631.5	2.0	25.0	.1	1.2	.06
2869, Industrial organic chemicals, n.e.c.....	112.3	2,108.7	9.8	203.0	.5	10.0	.09

Note: Establishments in selected industries were instructed to report number of employees, included in total employment, that were engaged in construction of major additions to the plant and utilized as a separate work force. Workers engaged in regular maintenance and repair operations were not included. Coverage Ratio (column G) indicates proportion of industry employment represented by establishments that reported construction employees. Coverage Ratio excludes: (a) construction workers not employed by the establishment (e.g., working under contract or provided by another establishment of the company); (b) establishments that reported having no construction employees; (c) establishments that did not respond to the inquiry, and (d) establishments that were not mailed a form, or from which a form had not been received at the time data were tabulated.

Agricultural Chemicals

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DESCRIPTION OF INDUSTRIES

AGRICULTURAL CHEMICALS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
2873	Nitrogenous Fertilizers
2874	Phosphatic Fertilizers
2875	Fertilizers, Mixing Only
2879	Agricultural Chemicals, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2873, NITROGENOUS FERTILIZERS

This industry comprises establishments primarily engaged in the manufacture of nitrogenous fertilizer materials or mixed fertilizers from nitrogenous materials produced in the same establishment. Included are ammonia fertilizer compounds and anhydrous ammonia, nitric acid, ammonium nitrate, ammonium sulfate and nitrogen solutions, urea, and natural organic fertilizers (except compost) and mixtures. Establishments primarily engaged in the manufacture of industrial inorganic chemicals, n.e.c., are classified in industry 2819 and industrial organic chemicals, n.e.c., in industry 2869.

The total value of shipments for establishments classified in the Nitrogenous Fertilizers industry amounted to $2,603 million in 1977, an increase of 222 percent from 1972. The value of shipments of products classified as primary to the industry was $2,857 million, an increase of 205 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,205 million in 1977, was 169 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.1 thousand employees, an increase of 29 percent from 1972. The leading States in employment were Louisiana, California, Ohio, and Mississippi, accounting for approximately 35 percent of the industry's 1977 employment. Data for Mississippi have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of synthetic ammonia, nitric acid, and ammonium compounds only at the product class level. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of these products are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-28A, Inorganic Chemicals. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 2874, PHOSPHATIC FERTILIZERS

This industry comprises establishments primarily engaged in the manufacture of phosphatic fertilizer materials or mixed fertilizers from phosphatic materials produced in the same establishment. Included are phosphoric acid; normal, enriched, and concentrated superphosphates; ammonium phosphates; nitrophosphates; and calcium metaphosphates. Establishments primarily engaged in the manufacture of industrial inorganic chemicals, n.e.c., are classified in industry 2819.

The total value of shipments for establishments classified in the Phosphatic Fertilizers industry amounted to $2,862 million in 1977, an increase of 127 percent from 1972. The value of shipments of products classified as primary to the industry was $2,553 million, an increase of 143 percent from 1972. (See the Introduction for a discussion of the difference

between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $818 million in 1977, was 92 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 14.4 thousand employees, a decrease of 3 percent from 1972. The leading States in employment were Florida, Idaho, Louisiana, and Texas, accounting for approximately 65 percent of the industry's 1977 employment. Data for Idaho have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of phosphoric acid only at the product class level. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of phosphoric acid are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-28A, Inorganic Chemicals. Some of these data are also shown in table 6a.

No establishments in this industry were excluded from the mail portion of the census. The data for a small number of establishments whose reports were not received at the time the data were tabulated were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 2875, FERTILIZERS, MIXING ONLY

This industry comprises establishments primarily engaged in mixing fertilizers from purchased fertilizer materials.

The total value of shipments for establishments classified in the Fertilizers, Mixing Only industry amounted to $1,867 million in 1977, an increase of 133 percent from 1972. The value of shipments of products classified as primary to the industry was $1,481 million, an increase of 127 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $489 million in 1977, was 85 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.4 thousand employees, an increase of 9 percent from 1972. The leading States in employment were Ohio, Florida, North Carolina, and Pennsylvania, accounting for approximately 35 percent of the industry's 1977 employment. This represents a shift from 1972 when Florida, Ohio, North Carolina, and Illinois accounted for approximately 35 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 2879, AGRICULTURAL CHEMICALS, N.E.C.

This industry comprises establishments primarily engaged in the formulation and preparation of ready-to-use agricultural and household pest-control chemicals, including insecticides, fungicides, and herbicides from technical chemicals or concentrates; and the production of concentrates which require further processing before use as agricultural pesticides. This industry also includes establishments primarily engaged in manufacturing or formulating agricultural chemicals, not elsewhere classified, such as minor or trace elements and soil conditioners. Establishments primarily engaged in the manufacture of basic or technical agricultural pest-control chemicals including insecticides, fungicides, and herbicides such as lead and calcium arsenates and copper sulfate are classified in industry group 281; DDT, BHC, 2,4-D carbamates, etc., in industry group 286; and agricultural lime products in major group 32.

The total value of shipments for establishments classified in the Agricultural Chemicals, N.E.C. industry amounted to $2,780 million in 1977, an increase of 142 percent from 1972. The value of shipments of products classified as primary to the industry was $2,704 million, an increase of 126 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were herbicidal preparations, for which shipments increased 172 percent. Value added by manufacture, at $1,299 million in 1977, was 117 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.0 thousand employees, an increase of 23 percent from 1972. The leading States in employment were Texas, Missouri, Alabama, and California, accounting for approximately 50 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

Table 1a. Historical Statisitcs for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 2873, NITROGENOUS FERTILIZERS[3]															
1977 Census..	110	152	88	12.1	207.9	7.9	17.1	128.4	1 204.7	1 447.3	2 603.4	734.4	(NA)	378.0	84	72
1976 ASM.....	(NA)	(NA)	(NA)	11.3	189.8	7.4	16.7	115.8	1 238.6	1 171.7	2 384.5	604.7	2 526.9	290.9	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	10.6	160.8	7.1	15.2	98.8	1 582.4	968.9	2 500.3	400.0	2 006.3	238.4	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	10.1	132.6	7.1	14.8	84.8	1 141.3	671.1	1 789.4	155.6	1 582.6	152.1	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	9.2	113.1	6.3	13.8	74.3	500.2	448.0	970.4	104.4	1 440.6	106.9	(NA)	(NA)
1972 Census..	48	73	68	9.4	104.3	6.1	13.2	64.3	447.6	362.7	799.4	33.2	1 403.3	116.2	85	69
	INDUSTRY 2874, PHOSPHATIC FERTILIZERS[3]															
1977 Census..	44	91	69	14.4	212.8	10.1	21.7	139.2	817.7	1 917.6	2 681.7	111.8	(NA)	419.7	93	91
1976 ASM.....	(NA)	(NA)	(NA)	14.9	201.5	10.7	22.5	130.5	726.9	1 696.0	2 439.1	225.6	1 616.0	370.6	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	16.0	199.6	11.7	24.7	135.2	1 178.8	1 685.6	2 746.9	303.2	1 492.7	378.8	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	14.8	162.4	11.1	24.0	111.2	1 028.1	1 247.9	2 222.4	297.7	1 090.9	233.3	(NA)	(NA)
1973 ASM[4]....	(NA)	(NA)	(NA)	13.1	128.0	9.6	20.8	88.4	543.6	795.6	1 357.5	88.3	811.8	129.8	(NA)	(NA)
1972 Census..	65	145	115	14.9	135.1	10.8	23.1	91.9	426.4	740.9	1 178.9	65.8	771.5	157.8	89	92
	INDUSTRY 2875, FERTILIZERS, MIXING ONLY															
1977 Census..	456	673	204	12.4	139.1	8.1	16.0	68.9	488.9	1 373.0	1 866.6	41.9	(NA)	306.5	95	98
1976 ASM.....	(NA)	(NA)	(NA)	10.4	110.5	6.7	13.1	56.7	410.7	1 195.6	1 616.1	34.9	319.4	247.7	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	11.1	110.4	7.1	13.5	55.0	544.9	1 213.5	1 723.8	49.9	328.5	290.9	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	11.1	101.2	7.2	13.8	50.1	499.0	995.9	1 434.9	34.9	258.7	245.0	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	12.0	88.3	7.7	15.3	44.4	314.3	683.7	995.1	22.8	287.9	152.5	(NA)	(NA)
1972 Census..	444	627	188	11.4	82.5	7.2	14.2	41.4	263.6	542.6	800.0	17.2	274.9	143.9	96	97
1971 ASM.....	(NA)	(NA)	(NA)	10.4	70.2	6.4	13.1	36.1	231.8	454.3	691.8	10.5	231.7	124.9	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	11.8	72.4	7.3	14.9	36.1	231.6	471.4	705.5	27.4	264.8	126.9	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	13.2	83.2	8.3	16.9	43.1	224.8	539.1	770.9	19.7	238.8	138.6	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	13.5	77.9	8.7	17.6	40.0	225.1	538.7	761.6	16.6	258.7	138.2	(NA)	(NA)
1967 Census..	496	721	210	13.4	70.6	8.9	17.8	37.5	195.3	535.7	731.1	18.0	243.5	133.2	96	97
1966 ASM.....	(NA)	(NA)	(NA)	14.5	67.7	9.8	19.3	37.9	213.6	531.1	734.9	16.6	(NA)	135.2	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	14.2	63.8	9.7	19.0	35.4	195.4	503.7	690.1	16.0	(NA)	124.2	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	13.8	62.2	9.1	18.2	33.9	188.5	489.1	668.2	16.8	235.3	116.7	(NA)	(NA)
1963 Census..	537	733	232	13.8	59.4	9.3	18.7	33.7	164.1	459.2	623.1	12.0	221.8	108.2	94	96
	INDUSTRY 2879, AGRICULTURAL CHEMICALS, N.E.C.[3]															
1977 Census..	338	409	121	15.0	224.1	9.3	17.9	118.2	1 299.3	1 496.2	2 780.4	219.2	(NA)	460.6	83	77
1976 ASM.....	(NA)	(NA)	(NA)	15.4	220.1	8.6	17.2	109.7	1 386.6	1 384.6	2 755.2	188.4	1 064.8	427.9	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	14.4	181.6	8.1	16.4	84.7	1 239.4	1 112.6	2 290.9	207.2	764.6	372.3	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	13.7	153.5	7.7	15.4	72.4	1 144.2	872.1	1 974.8	96.9	642.5	299.2	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	12.5	130.3	6.9	13.6	59.0	739.2	599.2	1 325.9	54.2	554.9	210.7	(NA)	(NA)
1972 Census..	298	388	113	12.2	116.5	6.8	13.2	53.5	598.9	547.4	1 150.8	39.5	506.4	183.4	87	72

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimated based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus, these estimates may be of limited reliability.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2873, NITROGENOUS FERTILIZERS										
1977 Census..	17 156	(NA)	64	2 171	7.53	55	63	(NA)	99 409	17	70.64
1976 ASM.....	16 796	223 619	65	2 256	6.93	49	57	105	109 610	15	74.16
1975 ASM.....	15 169	189 273	66	2 140	6.50	38	45	80	149 283	10	104.10
1974 ASM.....	13 128	156 693	70	2 084	5.72	37	44	88	113 000	11	77.11
1973 ASM.....	12 293	156 586	68	2 190	5.38	46	57	148	54 369	22	36.24
1972 Census..	11 095	149 287	64	2 163	4.87	45	58	175	47 617	23	33.90
	INDUSTRY 2874, PHOSPHATIC FERTILIZERS										
1977 Census..	14 825	(NA)	70	2 155	6.40	71	79	(NA)	56 969	26	37.60
1976 ASM.....	13 523	108 456	71	2 102	5.80	69	77	66	48 785	27	32.30
1975 ASM.....	12 475	93 293	73	2 111	5.47	61	68	54	73 675	16	47.72
1974 ASM.....	10 972	73 709	75	2 162	4.63	56	63	49	69 466	15	42.83
1973 ASM.....	9 770	61 969	73	2 166	4.25	58	68	59	41 496	23	26.13
1972 Census..	9 067	51 778	72	2 138	3.97	62	74	65	28 617	31	18.45
	INDUSTRY 2875, FERTILIZERS, MIXING ONLY										
1977 Census..	11 176	(NA)	65	1 976	4.29	73	81	(NA)	39 284	28	30.49
1976 ASM.....	10 625	30 711	64	1 955	4.32	73	80	19	39 490	26	31.35
1975 ASM.....	9 945	29 594	63	1 901	4.07	70	76	19	49 090	20	40.36
1974 ASM.....	9 117	23 306	64	1 916	3.63	69	76	18	44 954	20	36.15
1973 ASM.....	7 358	23 991	64	1 987	2.90	68	77	28	26 191	28	20.54
1972 Census..	7 236	24 114	63	1 972	2.91	67	78	34	23 122	31	18.56
1971 ASM.....	6 750	22 278	61	2 046	2.75	65	75	33	22 288	30	17.69
1970 ASM.....	6 135	22 440	61	2 041	2.42	66	77	37	19 627	31	15.54
1969 ASM.....	6 303	18 090	62	2 036	2.55	69	80	30	17 030	37	13.30
1968 ASM.....	5 770	19 162	64	2 022	2.27	70	80	33	16 674	34	12.78
1967 Census..	5 268	18 171	66	2 000	2.10	73	82	33	14 574	36	10.97
1966 ASM.....	4 668	(NA)	67	1 969	1.96	72	81	(NA)	14 731	31	11.06
1965 ASM.....	4 492	(NA)	68	1 958	1.86	72	82	(NA)	13 760	32	10.28
1964 ASM.....	4 507	17 050	65	2 000	1.86	73	82	35	13 659	32	10.35
1963 Census..	4 304	16 072	67	2 010	1.80	73	83	35	11 891	36	8.77
	INDUSTRY 2879, AGRICULTURAL CHEMICALS, N.E.C.										
1977 Census..	14 991	(NA)	62	1 935	6.58	53	61	(NA)	86 898	17	72.40
1976 ASM.....	14 292	69 142	55	2 000	6.37	50	58	38	90 038	15	80.61
1975 ASM.....	12 611	53 097	56	2 024	5.16	48	56	33	86 069	14	75.57
1974 ASM.....	11 204	46 897	56	2 000	4.70	44	51	32	83 518	13	74.29
1973 ASM.....	10 424	44 392	55	1 971	4.33	45	55	41	59 136	17	54.35
1972 Census..	9 549	41 508	55	1 941	4.05	47	57	44	49 090	19	45.37

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. (S) Withheld because estimates did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2873, NITROGENOUS FERTILIZERS														
United States	-	**152**	**88**	**12.1**	**207.9**	**7.9**	**17.1**	**128.4**	**1 204.7**	**1 447.3**	**2 603.4**	**734.4**	**9.4**	**447.6**
East North Central Division:														
Ohio	-	5	3	0.8	13.4	0.5	0.9	8.1	21.9	75.8	94.1	(D)	CC	(D)
Illinois	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West North Central Division:														
Iowa	-	7	4	0.5	8.8	0.3	0.6	4.2	65.4	96.3	157.6	6.6	0.4	18.9
Missouri	-	4	3	0.8	11.8	0.5	1.0	6.6	36.3	60.8	97.6	29.2	CC	(D)
Nebraska	-	5	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	18.7
Kansas	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Atlantic Division:														
North Carolina	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Florida	-	9	4	0.3	3.5	0.2	0.4	1.9	19.7	25.4	45.4	3.8	(NA)	(NA)
East South Central Division:														
Tennessee	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Alabama	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Mississippi	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Arkansas	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Louisiana	-	7	6	1.5	33.7	1.0	2.3	20.5	317.5	222.5	522.4	250.4	1.4	90.8
Oklahoma	-	4	4	0.5	9.1	0.4	0.9	6.4	80.8	113.7	196.6	(D)	AA	(D)
Texas	-	15	6	0.6	10.1	0.4	0.9	6.7	58.5	101.4	151.3	6.8	0.6	34.9
Mountain Division:														
New Mexico	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	7	4	0.2	4.3	0.2	0.3	2.8	18.6	21.3	37.5	(D)	(NA)	(NA)
California	-	18	8	0.9	15.1	0.7	1.4	10.8	61.3	114.8	182.2	(D)	0.5	19.3
Alaska	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
INDUSTRY 2874, PHOSPHATIC FERTILIZERS														
United States	-	**91**	**69**	**14.4**	**212.8**	**10.1**	**21.7**	**139.2**	**817.7**	**1 917.6**	**2 681.7**	**111.8**	**14.9**	**426.4**
East North Central Division:														
Illinois	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	12.6
West North Central Division:														
Iowa	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Missouri	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Atlantic Division:														
Virginia	-	4	4	0.4	4.1	0.3	0.5	2.4	11.5	29.2	42.1	(D)	CC	(D)
North Carolina	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.3	33.1
South Carolina	-	3	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	7.2
Georgia	-	8	8	0.6	5.5	0.4	0.7	3.3	22.1	54.8	77.2	2.1	0.8	12.5
Florida	-	19	18	6.3	94.9	4.8	10.7	66.6	304.2	878.5	1 156.0	38.6	4.7	130.8
East South Central Division:														
Mississippi	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Louisiana	-	3	3	0.9	18.9	0.6	1.4	12.7	143.2	260.4	399.9	(D)	CC	(D)
Texas	-	7	5	0.8	12.7	0.5	1.2	8.9	32.0	90.1	123.3	(D)	1.0	44.1
Mountain Division:														
Idaho	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pacific Division:														
California	-	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
INDUSTRY 2875, FERTILIZERS, MIXING ONLY														
United States	-	**673**	**204**	**12.4**	**139.1**	**8.1**	**16.0**	**68.9**	**488.9**	**1 373.0**	**1 866.6**	**41.9**	**11.4**	**263.6**
Middle Atlantic Division:														
New York	-	20	8	0.3	3.6	0.3	0.5	1.7	9.1	52.9	62.6	0.7	0.3	3.7
New Jersey	-	13	5	0.2	2.2	0.2	0.3	1.2	4.7	16.8	21.1	0.4	0.2	2.9
Pennsylvania	-	28	8	0.7	7.9	0.5	1.1	4.4	26.2	73.4	99.5	2.1	0.3	6.1
East North Central Division:														
Ohio	-	43	14	1.5	22.0	0.8	1.5	8.4	131.5	221.3	361.3	5.0	1.2	74.4
Indiana	-	41	6	0.5	5.6	0.4	0.6	2.8	20.2	58.6	76.6	(D)	CC	(D)
Illinois	-	31	9	0.5	6.4	0.4	0.6	3.2	15.3	86.2	101.0	1.4	0.5	11.7
Michigan	-	11	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Wisconsin	-	17	5	0.2	2.5	0.2	0.3	1.6	9.1	20.5	29.9	0.3	0.2	4.2
West North Central Division:														
Minnesota	-	37	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.8
Iowa	-	11	4	0.3	3.2	0.2	0.3	1.7	9.0	26.4	35.5	(D)	0.4	9.3

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers						All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)		
INDUSTRY 2875, FERTILIZERS, MIXING ONLY—Con.													
South Atlantic Division:													
Maryland	-	14	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Virginia	-	16	9	0.5	5.1	0.3	0.6	2.8	13.5	43.7	58.5	1.4	CC	(D)
North Carolina	-	32	17	1.0	9.2	0.7	1.4	5.0	31.8	106.5	138.5	3.7	0.9	17.6
South Carolina	E1	17	4	0.2	1.8	0.1	0.3	1.0	5.8	17.9	24.4	0.7	0.2	1.4
Georgia	-	30	13	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	10.1
Florida	-	50	25	1.2	14.7	0.7	1.6	6.8	26.6	133.8	161.9	2.2	1.4	22.1
East South Central Division:														
Kentucky	-	19	9	0.4	3.6	0.3	0.6	2.0	13.9	38.5	50.7	2.1	0.3	4.4
Tennessee	-	12	9	0.4	3.5	0.3	0.5	2.1	14.6	45.1	54.2	1.0	0.3	6.9
Alabama	E1	18	5	0.3	2.3	0.2	0.3	1.2	7.5	21.0	28.0	(D)	0.2	4.6
Mississippi	-	13	3	0.2	1.9	0.1	0.2	1.0	7.3	15.5	23.3	(D)	0.2	3.4
West South Central Division:														
Texas	E1	53	12	0.6	8.0	0.4	0.9	4.3	26.4	70.9	99.1	(D)	0.5	7.9
Pacific Division:														
California	E1	35	8	0.6	6.7	0.3	0.7	3.1	23.7	35.7	59.9	1.2	BB	(D)
Hawaii	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
INDUSTRY 2879, AGRICULTURAL CHEMICALS, N.E.C.														
United States	-	**408**	**121**	**15.0**	**224.1**	**9.3**	**17.9**	**118.2**	**1 299.3**	**1 496.2**	**2 780.4**	**219.2**	**12.2**	**598.9**
New England Division:														
Connecticut	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	20	3	0.4	5.2	0.3	0.5	2.9	17.6	55.5	75.7	6.5	0.2	2.3
New Jersey	-	18	11	0.8	8.5	0.6	1.3	5.3	56.7	85.1	142.4	1.2	EE	(D)
Pennsylvania	-	12	2	0.3	4.4	0.2	0.4	3.7	13.0	20.5	32.8	1.1	0.8	11.1
East North Central Division:														
Ohio	-	12	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	16.0
Indiana	-	5	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois	-	18	7	0.5	6.1	0.4	0.7	4.2	17.4	35.3	52.8	(D)	BB	(D)
West North Central Division:														
Missouri	-	19	10	1.9	31.2	0.9	1.7	11.9	134.1	118.3	253.4	(D)	1.2	39.2
Kansas	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
North Carolina	-	13	4	0.3	4.0	0.1	0.2	1.3	11.0	35.4	53.7	0.7	BB	(D)
Georgia	-	16	9	0.7	8.9	0.4	0.8	4.0	51.7	77.3	130.7	6.7	BB	(D)
Florida	-	25	5	0.4	4.0	0.2	0.4	1.7	22.9	45.2	67.1	0.7	BB	(D)
East South Central Division:														
Tennessee	-	6	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	17.6
Alabama	-	8	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mississippi	-	8	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Arkansas	-	7	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Louisiana	-	13	5	0.5	10.5	0.3	0.7	6.5	170.0	142.0	315.1	(D)	BB	(D)
Texas	-	42	12	2.4	41.8	1.6	2.9	22.6	204.5	244.8	436.2	95.3	0.9	30.4
Pacific Division:														
Washington	E2	10	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	56	15	1.2	17.4	0.8	1.5	9.3	105.1	131.1	236.5	9.2	1.3	38.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Nitrogenous fertilizers (SIC 2873)	Phosphatic fertilizers (SIC 2874)	Fertilizers, mixing only (SIC 2875)	Agricultural chemicals, n.e.c. (SIC 2879)
Primary product specialization ratio[1]	percent	84	93	95	83
Coverage ratio[2]	do	72	91	98	77
All establishments	number	152	91	673	409
With 1 to 19 employees	do	64	22	469	288
With 20 to 99 employees	do	46	34	195	93
With 100 employees or more	do	42	35	9	28
All employees, average for year	1,000	12.1	14.4	12.4	15.0
Payroll for year, all employees	mil. dol.	207.9	212.8	139.1	224.1
Production workers:					
Average for year	1,000	7.9	10.1	8.1	9.3
March	do	7.9	10.5	9.3	9.4
May	do	7.9	10.4	9.1	9.6
August	do	7.8	9.7	6.8	8.7
November	do	7.8	9.7	7.1	9.2
Hours	millions	17.1	21.7	16.0	17.9
January to March	do	4.1	5.5	4.4	4.5
April to June	do	4.4	5.6	4.7	4.7
July to September	do	4.3	5.3	3.4	4.3
October to December	do	4.3	5.3	3.6	4.4
Wages	mil. dol.	128.4	139.2	68.9	118.2
Cost of materials, etc.	do	1 447.3	1 917.6	1 373.0	1 496.2
Materials, parts, containers, etc., consumed	do	893.5	1 611.0	1 070.8	1 210.6
Resales	do	109.2	160.7	281.2	191.9
Fuels consumed	do	313.7	60.0	8.6	44.6
Purchased electric energy	do	102.6	77.2	8.0	20.9
Contract work	do	28.4	8.7	4.3	28.2
Value of shipments, including resales	do	2 603.4	2 681.7	1 866.6	2 780.4
Value of resales	do	139.9	180.0	333.2	270.8
Value added by manufacture	do	1 204.7	817.7	488.9	1 299.3
Manufacturers' inventories:					
Beginning of year	do	296.9	353.9	303.3	440.2
Finished products	do	170.9	200.4	189.8	223.4
Work in process	do	12.2	18.0	21.6	52.3
Materials, supplies, fuel, etc.	do	113.8	135.5	92.0	164.6
End of year	do	378.0	419.7	306.5	460.6
Finished products	do	218.5	252.5	186.3	228.3
Work in process	do	13.3	19.4	20.4	62.5
Materials, supplies, fuel, etc.	do	146.2	147.8	99.8	169.9
Capital expenditures for plant and equipment	do	782.5	113.4	43.6	220.9
New capital expenditures	do	734.4	111.8	41.9	219.2
New buildings and other structures	do	34.7	13.8	9.3	41.1
New machinery and equipment	do	699.6	97.9	32.6	178.0
Used capital expenditures	do	48.1	1.6	1.6	1.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Nitrogenous fertilizers (SIC 2873)		Phosphatic fertilizers (SIC 2874)		Fertilizers, mixed only (SIC 2875)		Agricultural chemicals, n.e.c. (SIC 2879)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	3.3	8	4.4	3	3.5	9	4.2	5
Response coverage ratio[2] (percent)	66	(X)	65	(X)	63	(X)	78	(X)
Machinery	49.6	1	38.6	2	10.3	14	11.2	6
Response coverage ratio[2] (percent)	85	(X)	79	(X)	66	(X)	74	(X)
Cost of purchased communication services	5.3	2	2.8	1	(2.0)	18	(3.0)	16
Response coverage ratio[2] (percent)	63	(X)	87	(X)	66	(X)	78	(X)
Rental payments	23.7	2	23.0	1	(6.1)	15	(9.2)	15
Buildings and other structures	8.4	4	4.5	2	(1.5)	27	(3.0)	22
Machinery and equipment	15.3	2	18.5	2	4.6	13	6.1	13
Supplemental labor costs	41.5	1	43.9	1	23.4	4	42.0	1
Legal costs	15.7	1	17.7	1	11.9	4	15.6	2
Voluntary costs	25.7	2	26.3	1	11.5	5	26.4	2
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	261.5	1	231.4	1	133.0	6	225.1	3
New capital expenditures	38.5	8	13.8	6	(10.6)	20	41.2	8
Used capital expenditures	2.4	10	-	(X)	(1.9)	52	0.9	3
Retirements	(17.2)	26	1.9	4	9.8	6	(3.0)	26
End of year	285.3	1	243.3	1	135.7	6	264.1	3
Machinery and equipment:								
Beginning of year	2,258.3	1	1,482.4	1	244.9	6	797.0	3
New capital expenditures	757.6	2	98.0	2	(32.0)	15	178.1	4
Automobiles, trucks, etc., for highway use[3]	(1.2)	(A)	(0.8)	(A)	(3.8)	(A)	(0.6)	(A)
Computers and peripheral data processing equipment[3]	(0.3)	(A)	(1.0)	(A)	(0.7)	(A)	(1.4)	(A)
All other[3]	628.2	3	(85.5)	23	23.9	84	160.3	12
New machinery and equipment, n.s.k.[4]	(127.9)	16	(10.7)	(A)	(3.6)	(A)	(15.8)	(A)
Used capital expenditures	45.7	1	1.7	7	(2.3)	40	0.4	8
Retirements	31.1	2	20.0	2	27.6	5	18.3	7
End of year	3,030.5	1	1,562.0	1	251.6	6	957.2	2
Total gross value of depreciable assets:								
Beginning of year	2,519.8	1	1,713.8	1	377.9	4	1,022.1	1
New capital expenditures	796.1	2	111.8	3	(42.6)	16	219.3	4
Used capital expenditures	48.2	1	1.7	7	(4.1)	39	1.2	4
Retirements	48.3	9	21.9	2	37.4	5	21.3	9
End of year	3,315.8	1	1,805.3	1	387.2	4	1,221.3	1
Depreciation charges during 1977	168.1	1	122.7	1	30.6	9	82.6	2
Buildings and other structures	13.9	12	12.8	1	9.3	12	11.4	2
Machinery and equipment	154.1	2	109.9	1	21.3	11	71.2	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditure, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2873, NITROGENOUS FERTILIZERS												
Total	-	**152**	**12.1**	**207.9**	**7.9**	**17.1**	**128.4**	**1 204.7**	**1 447.3**	**2 603.4**	**734.4**	**378.0**
Establishments with an average of—												
1 to 4 employees	E6	37	0.1	0.9	(Z)	0.1	0.5	4.7	4.0	8.6	2.1	1.1
5 to 9 employees	E3	15	0.1	1.6	0.1	0.1	1.0	10.4	12.2	23.7	3.1	3.0
10 to 19 employees	E1	12	0.2	2.7	0.1	0.2	1.4	24.4	18.6	41.4	5.8	5.1
20 to 49 employees	-	25	0.8	11.8	0.5	1.2	7.5	67.5	95.8	161.0	66.3	22.3
50 to 99 employees	-	21	1.4	23.6	1.0	2.2	16.0	166.1	231.7	383.4	22.6	58.0
100 to 249 employees	-	30	4.6	82.6	3.0	6.7	51.2	475.6	664.2	1 108.0	516.9	168.9
250 to 499 employees	-	10	(5.0)	(84.7)	(3.0)	(6.5)	(50.9)	(456.1)	(420.7)	(877.3)	(116.6)	(119.7)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	32	0.1	2.4	0.1	0.2	1.5	11.3	9.9	21.2	6.0	2.7
INDUSTRY 2874, PHOSPHATIC FERTILIZERS												
Total	-	**91**	**14.4**	**212.8**	**10.1**	**21.7**	**139.2**	**817.7**	**1 917.6**	**2 681.7**	**111.8**	**419.7**
Establishments with an average of—												
1 to 4 employees	-	6	(Z)	0.2	(Z)	(Z)	(Z)	2.1	2.1	4.0	(0.3)	1.0
5 to 9 employees	-	6	(Z)	0.5	(Z)	(Z)	0.2	1.5	5.1	6.8	(D)	1.8
10 to 19 employees	-	10	0.1	1.5	0.1	0.2	0.7	4.7	15.4	20.4	0.3	4.6
20 to 49 employees	-	15	0.5	6.1	0.3	0.7	3.5	46.8	90.7	132.5	1.3	26.5
50 to 99 employees	-	19	1.4	14.4	1.0	2.0	9.7	48.6	147.0	196.6	7.8	32.7
100 to 249 employees	-	16	2.5	36.3	1.9	4.0	25.0	121.6	407.0	513.7	19.0	80.7
250 to 499 employees	-	9	3.4	56.8	2.3	5.1	35.9	272.5	546.4	804.9	26.2	116.4
500 to 999 employees	-	9	(6.3)	(97.0)	(4.4)	(9.7)	(64.1)	(319.9)	(703.8)	(1 002.9)	(56.9)	(156.1)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 2875, FERTILIZERS, MIXING ONLY												
Total	-	**673**	**12.4**	**139.1**	**8.1**	**16.0**	**88.9**	**488.9**	**1 373.0**	**1 866.6**	**41.9**	**306.5**
Establishments with an average of—												
1 to 4 employees	E3	227	0.5	4.8	0.4	0.7	2.4	(S)	67.0	78.0	2.3	11.5
5 to 9 employees	E1	120	0.8	8.9	0.5	1.1	4.6	36.5	103.0	140.8	2.9	19.8
10 to 19 employees	-	122	1.6	16.6	1.1	2.1	8.8	61.5	173.1	234.4	5.3	37.7
20 to 49 employees	-	143	4.3	44.9	3.1	6.3	25.3	143.1	491.0	628.1	16.8	103.4
50 to 99 employees	-	52	3.5	39.5	2.2	4.2	18.5	108.6	322.4	430.3	(14.6)	75.4
100 to 249 employees	-	7	(1.7)	(24.4)	(0.9)	(1.7)	(9.4)	(145.4)	(216.5)	(355.0)	(D)	(58.8)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	162	0.5	5.5	0.4	0.7	2.8	17.6	49.6	67.3	1.5	9.8
INDUSTRY 2879, AGRICULTURAL CHEMICALS, N.E.C.												
Total	-	**409**	**15.0**	**224.1**	**9.3**	**17.9**	**118.2**	**1 299.3**	**1 496.2**	**2 780.4**	**219.2**	**480.6**
Establishments with an average of—												
1 to 4 employees	E6	156	0.2	3.5	0.2	0.3	1.7	17.0	17.5	36.1	2.1	6.4
5 to 9 employees	E3	70	0.5	6.1	0.3	0.5	3.2	35.3	33.5	69.8	4.1	9.8
10 to 19 employees	E1	62	0.8	11.2	0.5	0.9	4.7	48.4	87.0	135.2	4.5	17.1
20 to 49 employees	-	66	2.1	26.2	1.3	2.6	12.4	148.3	256.1	410.0	42.7	66.1
50 to 99 employees	-	27	1.9	22.9	1.2	2.5	12.3	198.1	195.1	379.9	63.5	69.9
100 to 249 employees	-	20	(4.5)	(61.1)	(3.1)	(5.9)	(36.9)	(392.5)	(464.3)	(859.2)	(52.5)	(119.7)
250 to 499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	4	4.8	93.1	2.7	5.4	47.1	459.6	442.6	890.2	49.9	171.5
Covered by administrative records[2]	E0	152	0.5	6.9	0.3	0.5	3.5	33.9	30.0	63.9	4.0	9.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2873	**Nitrogenous fertilizers:**										
	Entire industry	152	12.1	207.9	7.9	17.1	128.4	1 204.7	1 447.3	2 603.4	734.4
	Establishments with 75 percent specialization or more	133	8.9	151.0	5.6	12.4	92.1	869.5	1 132.7	1 957.1	615.7
28731	Synthetic ammonia, nitric acid, and ammonium compounds:										
	Establishments with this product class primary	74	9.9	176.0	6.5	14.2	107.7	1 052.9	1 290.5	2 299.1	712.4
	Establishments with 75 percent specialization or more in class	54	5.6	98.5	3.6	8.2	60.1	590.4	794.9	1 354.2	397.5
28732	Urea:										
	Establishments with this product class primary	9	1.6	24.1	0.9	2.0	16.1	121.4	132.2	249.0	11.4
	Establishments with 75 percent specialization or more in class	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28733	Fertilizer materials of organic origin:										
	Establishments with this product class primary	15	0.3	3.6	0.2	0.5	2.2	11.6	7.6	19.5	1.6
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2874	**Phosphatic fertilizers:**										
	Entire industry	91	14.4	212.8	10.1	21.7	139.2	817.7	1 917.6	2 681.7	111.8
	Establishments with 75 percent specialization or more	73	12.8	189.8	9.1	19.9	125.9	732.3	1 722.2	2 402.2	100.5
28741	Phosphoric acid:										
	Establishments with this product class primary	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28742	Superphosphate and other phosphatic fertilizer materials:										
	Establishments with this product class primary	31	8.9	141.3	6.3	14.0	93.2	520.8	1 268.6	1 753.5	71.4
	Establishments with 75 percent specialization or more in class	19	5.9	95.1	4.3	10.2	65.0	361.6	923.3	1 265.4	42.6
28744	Mixed fertilizers, made from produced materials:										
	Establishments with this product class primary	45	3.9	47.2	2.7	5.3	29.0	180.7	427.4	596.9	29.4
	Establishments with 75 percent specialization or more in class	30	2.2	25.8	1.6	3.4	17.8	109.3	273.7	370.9	(D)
2875	**Fertilizers, mixing only:**										
	Entire industry	673	12.4	139.1	8.1	16.0	68.9	488.9	1 373.0	1 866.6	41.9
	Establishments with 75 percent specialization or more	653	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28754	Mixed fertilizers, made from purchased materials:										
	Establishments with this product class primary	396	11.1	125.7	7.2	14.3	62.2	466.2	1 250.0	1 703.8	37.7
	Establishments with 75 percent specialization or more in class	384	10.6	118.1	6.9	13.8	59.2	388.1	1 218.0	1 596.6	36.1
2879	**Agricultural chemicals, n.e.c.:**										
	Entire industry	409	15.0	224.1	9.3	17.9	118.2	1 299.3	1 496.2	2 780.4	219.2
	Establishments with 75 percent specialization or more	383	11.0	157.0	6.6	12.7	78.6	964.1	1 141.4	2 096.7	(D)
28795	Insecticidal preparations for agricultural, garden, and: health use:										
	Establishments with this product class primary	79	5.2	75.4	3.3	6.3	39.3	368.9	619.8	970.5	52.0
	Establishments with 75 percent specialization or more in class	44	1.8	21.6	1.1	2.1	9.9	88.9	291.2	390.0	12.5
28796	Herbicidal preparations for agricultural, garden, and: health use:										
	Establishments with this product class primary	38	6.0	102.1	3.5	6.9	54.0	684.2	659.2	1 348.7	82.3
	Establishments with 75 percent specialization or more in class	16	1.1	19.1	0.8	1.7	12.4	209.4	180.7	394.2	51.8
28797	Fungicidal preparations for agricultural, garden, and: health use:										
	Establishments with this product class primary	14	0.6	8.7	0.4	0.8	5.4	65.5	60.5	124.3	(D)
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28798	Pesticidal preparations for agricultural, garden, and: health use, n.e.c.:										
	Establishments with this product class primary	22	0.5	6.4	0.3	0.6	2.9	32.0	23.9	53.3	(D)
	Establishments with 75 percent specialization or more in class	15	0.3	3.7	0.2	0.3	2.1	21.3	12.1	32.0	(D)
28799	Household pesticidal preparations:										
	Establishments with this product class primary	18	0.9	10.0	0.6	1.2	5.5	50.0	47.7	97.8	0.7
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2873	Nitrogenous fertilizers.....1977..	2,603.4	2,068.1	383.3	152.0	84	2,856.5	2,068.1	788.4	72
	1972..	808.4	647.5	114.7	46.2	85	937.3	647.5	289.8	69
	1967..	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
2874	Phosphatic fertilizers.....1977..	2,681.7	2,326.8	172.4	182.6	93	2,552.6	2,326.8	225.8	91
	1972..	1,178.9	973.3	125.0	80.6	89	1,052.5	973.3	79.2	92
	1967..	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
2875	Fertilizers, mixing only.....1977..	1,866.6	1,451.2	71.6	343.8	95	1,480.9	1,451.2	29.7	98
	1972..	799.9	631.2	27.4	141.3	96	651.9	631.2	20.7	97
	1967..	731.1	570.1	23.5	137.5	96	588.2	570.1	18.1	97
2879	Agricultural chemicals, n.e.c.....1977..	2,780.4	2,071.1	420.1	289.3	83	2,704.0	2,071.1	632.9	77
	1972..	1,150.8	867.0	130.8	153.0	87	1,196.2	867.0	329.2	72
	1967..	817.0	598.5	88.4	130.1	87	834.3	598.5	235.8	72

(NA) Not available. n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Nitrogenous fertilizers (SIC 2873)	Phosphatic fertilizers (SIC 2874)	Fertilizers, mixing only (SIC 2875)	Agricultural chemicals, n.e.c. (SIC 2879)	Other industries
	Total	(X)	2,603.4	2,681.7	1,866.6	2,780.4	(X)
	Primary products	(X)	2,068.1	2,326.8	1,451.2	2,071.1	(X)
	Secondary products	(X)	383.3	172.4	71.6	420.1	(X)
	Miscellaneous receipts	(X)	152.0	182.6	343.8	289.3	(X)
2873-	Nitrogenous fertilizers	2,856.5	2,068.1	(D)	(D)	(D)	682.2
28731	Synthetic ammonia, nitric acid, and ammonium compounds	2,300.8	1,623.5	66.8	(D)	(D)	608.6
28732	Urea	492.6	394.0	(D)	1.6	-	(D)
28733	Fertilizer materials of organic origin	29.5	17.1	(D)	(D)	(D)	(D)
28730	Nitrogenous fertilizers, n.s.k.	33.6	33.5	-	-	-	(Z)
2874-	Phosphatic fertilizers	2,552.6	(D)	2,326.8	-	(D)	118.5
28741	Phosphoric acid	510.2	(D)	406.3	-	(D)	(D)
28742	Superphosphate and other phosphatic fertilizer materials	1,586.4	82.7	1,491.0	-	-	12.7
28744	Mixed fertilizers, made from produced materials	452.0	(D)	427.1	-	(D)	(D)
28740	Phosphatic fertilizers, n.s.k.	3.9	(D)	2.4	-	-	(D)
28754	Mixed fertilizers, made from purchased materials	1,480.9	(D)	(D)	1,451.2	(D)	23.3
2879-	Agricultural chemicals, n.e.c.	2,704.0	(D)	(D)	(D)	2,071.1	552.0
28795	Insecticidal preparations, agricultural, garden, and health use	828.2	(D)	(D)	(D)	644.4	171.4
28796	Herbicidal preparations, agricultural, garden, and health use	1,177.1	(D)	-	(D)	996.5	120.8
28797	Fungicidal preparations, agricultural, garden, and health use	196.9	(D)	-	(D)	126.8	(D)
28798	Pesticidal preparations, agricultural, garden, and health use, n.e.c.	119.9	(D)	(D)	-	62.8	56.8
28799	Household pesticidal preparations	227.8	-	-	-	92.1	135.7
28790	Agricultural chemicals, n.e.c., n.s.k.	154.1	-	-	(D)	148.5	(D)
	Other shipments by 4-digit product group:						
2047-	Dog, cat, and other pet food	(X)	-	-	-	(D)	(X)
2048-	Prepared feeds, n.e.c.	(X)	(D)	-	(D)	(D)	(X)
2813-	Industrial gases	(X)	9.2	(D)	-	-	(X)
2819-	Industrial inorganic chemicals, n.e.c.	(X)	(D)	(D)	(D)	(D)	(X)
2821-	Plastics materials and resins	(X)	-	-	-	(D)	(X)
2833-	Medicinals and botanicals	(X)	(D)	-	-	(D)	(X)
2841-	Soap and other detergents	(X)	-	-	-	(D)	(X)
2842-	Polishes and sanitation goods	(X)	-	-	-	(D)	(X)
2844-	Toilet preparations	(X)	-	-	-	(D)	(X)
2865-	Cyclic crudes and intermediates	(X)	(D)	-	-	(D)	(X)
2869-	Industrial organic chemicals, n.e.c.	(X)	(D)	(D)	-	(D)	(X)
2899-	Chemical preparations, n.e.c.	(X)	(D)	-	(D)	(D)	(X)
	Miscellaneous receipts:						
93000 00	Contract work	(X)	(D)	(D)	(D)	17.0	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(D)	(D)	(D)	(X)
99980 41	Receipts for research and development	(X)	(D)	-	-	-	(X)
99980 98	Other miscellaneous receipts	(X)	5.5	(D)	9.0	(D)	(X)
99989 00	Resales	(X)	139.9	180.0	333.2	270.8	(X)

1977 product code	Industry and miscellaneous recipts	Other industries
	Other industries with over $5 million shipments of primary products:	
2873-	2812 Alkalies and chlorine	(D)
	2813 Industrial gases	(D)
	2816 Inorganic pigments	(D)
	2819 Industrial inorganic chemicals, n.e.c.	(D)
	2821 Plastics materials and resins	(D)
	2865 Cyclic crudes and intermediates	(D)
	2869 Industrial organic chemicals, n.e.c.	(D)
	2892 Explosives	(D)
	2911 Petroleum refining	(D)
2874-	2819 Industrial inorganic chemicals, n.e.c.	99.4
	2869 Industrial organic chemicals, n.e.c.	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
2874-	3312 Blast furnaces and steel mills	(D)
2875-	2048 Prepared feeds, n.e.c.	5.5
2879-	2065 Confectionery products	(D)
	2819 Industrial inorganic chemicals, n.e.c.	(D)
	2821 Plastics materials and resins	(D)
	2833 Medicinals and botanicals	7.1
	2834 Pharmaceutical preparations	(D)
	2841 Soap and other detergents	(D)
	2842 Polishes and sanitation goods	(D)
	2869 Industrial organic chemicals, n.e.c.	(D)
	2899 Chemical preparations, n.e.c.	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity[2]	Product shipments[1] Value (million dollars)	Commercial product shipments Quantity	Commercial product shipments Value (million dollars)
			1977					
	NITROGENOUS FERTILIZERS							
2873- --	Total	1,000 s. tons	(NA)	(X)	(X)	2,856.5	(X)	(X)
28731 --	Synthetic ammonia, nitric acid, and ammonium compounds:							
28731 00	As reported in census of manufactures		76	(X)	(X)	2,300.8	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals[3]		(NA)	(X)	(X)	2,322.0	(X)	(X)
28731 11	Nitric acid (100% HNO_3)	1,000 s. tons	(NA)	[4]7,987.1	703.4	91.7	302.0	39.4
	Ammonia (100% NH_3)[5]:							
28731 31	Anhydrous		(NA)	17,764.6	9,827.7	1,017.9	2,091.9	209.6
28731 33	Aqua		(NA)	50.5	50.9	6.6	(D)	(D)
	Ammonium compounds:							
28731 50	Nitrate (100% NH_4NO_3)		(NA)	[6]7,177.3	4,580.8	503.6	(D)	(D)
	Fertilizer use:							
28731 51	Solution		(NA)	[7]2,516.9	566.6	70.0	(D)	(D)
28731 52	Solid		(NA)	3,148.3	3,045.7	330.9	(D)	(D)
28731 53	Explosive and other uses		(NA)	1,286.7	968.5	102.7	(D)	(D)
28731 55	Nitrogen solutions, including mixtures containing urea (100% N)		(NA)	2,468.1	2,214.0	525.2	(D)	(D)
28731 57	Sulfate (other than by-product coke oven) (100% $(NH_4)_2SO_4$)	1,000 s. tons	(NA)	2,263.9	2,126.4	115.9	(D)	(D)
28731 59	Other ammonium compounds (including ammonium chloride)		(NA)	(X)	(X)	61.1	(X)	(X)
28732 --	Urea:[8]							
28732 15	As reported in census of manufactures		28	(X)	(X)	492.6	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals[3]	1,000 s. tons	(NA)	4,445.5	(X)	(X)	(X)	(X)
28733 --	Fertilizer materials of organic origin:							
28733 85	Fertilizer materials of organic origin, including activated sewage sludge, processed tankage, and other natural fertilizer materials	1,000 s. tons	19	**794.4	**787.3	29.5	(X)	(X)
28730 00	Nitrogenous fertilizers, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	(X)	12.4	(X)	(X)
28730 02	Nitrogenous fertilizers, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	(X)	21.2	(X)	(X)
			1972					
	NITROGENOUS FERTILIZERS							
2873- --	Total	1,000 s. tons	(X)	(X)	(X)	937.3	(X)	(X)
28731 --	Synthetic ammonia, nitric acid, and ammonium compounds:							
28731 00	As reported in census of manufactures		(X)	(X)	(X)	766.2	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals[3]		(X)	(X)	(X)	775.9	(X)	(X)
28731 11	Nitric acid (100% NHO_3)	1,000 s. tons	(X)	[4]7,981.3	596.1	38.2	354.9	24.5
	Ammonia (100% NH_3):[5]							
28731 31	Anhydrous		(X)	15,169.3	9,671.0	342.1	6,124.8	221.1
28731 33	Aqua		(X)	37.7	33.9	1.9	(D)	(D)
	Ammonium compounds:							
	Chloride (100% NH_4Cl):							
28731 41	Gray		(X)	(D)	(D)	(9)	(D)	(D)
28731 43	White							
28731 50	Nitrate (100% NH_4NO_3)		(X)	[6]6,863.2	4,619.3	197.8	(D)	(D)
	Fertilizer use:							
28731 51	Solution		(X)	[7]2,048.9	232.4	12.0	(D)	(D)
28731 52	Solid		(X)	3,813.5	3,739.4	158.4	(D)	(D)
28731 53	Explosive and other uses		(X)	1,037.9	647.5	29.5	(D)	(D)
28731 55	Nitrogen solutions, including mixtures containing urea (100% N)		(X)	1,464.9	1,511.4	136.8	(D)	(D)
28731 57	Sulfate (other than by-product coke oven) (100% $(NH_4)_2SO_4$)	1,000 s. tons	(X)	1,858.0	1,741.9	34.0	(D)	(D)
28731 59	Other ammonium compounds[9]		(X)	(X)	(X)	[9]23.7	(X)	(X)
28732 --	Urea:							
28732 15	As reported in census of manufactures		(X)	(X)	(X)	160.4	(X)	15.4
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals[3]	1,000 s. tons	(X)	3,424.2	(X)	(X)	(X)	(X)
28733 --	Fertilizer materials of organic origin:							
28733 85	Fertilizer materials of organic origin, including activated sewage sludge, processed tankage, and other natural fertilizer materials	1,000 s. tons	(X)	(S)	(S)	(S)	(X)	(X)
28730 00	Nitrogenous fertilizers, n.s.k., typically for establishments with 10 employees or more (see note)		(X)	(X)	(X)	(D)	(X)	(X)
28730 02	Nitrogenous fertilizers, n.s.k., typically for establishments with less than 10 employees (see note)		(X)	-	-	-	-	-

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity[2]	Product shipments[1] Value (million dollars)	Commercial product shipments only Quantity	Commercial product shipments only Value (million dollars)
			1977					
	PHOSPHATIC FERTILIZERS							
2874- --	Total		(NA)	(X)	(X)	2,552.6	(X)	(X)
28741 --	Phosphoric acid (100% P_2O_5):							
28741 00	As reported in the census of manufactures		24	(X)	(X)	510.2	(X)	(X)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals	1,000 s. tons	(NA)	(NA)	(NA)	459.6	(NA)	(NA)
28741 81	From phosphorus	1,000 s. tons	(NA)	706.7	277.1	120.4	(D)	(D)
28741 82	Ordinary	1,000 s. tons	(NA)	(D)	(D)	(D)	(D)	(D)
28741 83	Superphosphoric	1,000 s. tons	(NA)	(D)	(D)	(D)	(D)	(D)
28741 85	From other sources (phosphate rock, etc.)	1,000 s. tons	(NA)	8,038.7	2,104.0	339.2	349.0	53.6
28741 86	Ordinary	1,000 s. tons	(NA)	7,339.9	1,686.2	265.0	(D)	(D)
28741 87	Superphosphoric	1,000 s. tons	(NA)	698.8	417.8	74.2	(D)	(D)
28742 --	Superphosphate and other phosphatic fertilizer materials		(NA)	(X)	(X)	1,586.4	(X)	(X)
	Superphosphate:							
28742 15	Normal and enriched (less than 42% P_2O_5)[10]	1,000 s. tons	17	384.5	292.7	32.5	(X)	(X)
28742 41	Triple (42% P_2O_5 and over)[10]	1,000 s. tons	18	1,756.7	1,683.9	291.4	(X)	(X)
28742 51	Ammonium phosphates (chemically processed nitrogen-phosphorus materials comprising liquid and solid fertilizer grades of monoammonium and diammonium phosphates and their processed combinations with ammonium sulfate)[10]	1,000 s. tons	25	4,552.5	4,568.8	1,035.5	(X)	(X)
28742 61	Other phosphatic fertilizer materials (chemically processed materials such as ammonium phosphate potash mixtures, nitrophosphates, calcium metaphosphates, sodium phosphates, and wet base goods, etc.)	1,000 s. tons	12	307.7	341.9	138.2	(X)	(X)
28742 71	Defluorinated phosphate rock and other feed grade phosphates	1,000 s. tons	6	(S)	(S)	79.6	(X)	(X)
28742 00	Superphosphate and other phosphatic fertilizer materials, n.s.k.		(NA)	(X)	(X)	9.2	(X)	(X)
28744 --	Mixed fertilizers, produced from one or more materials (i.e., superphosphate produced in same plant) (see industry 2875, product class 28754)		(NA)	(X)	(X)	452.0	(X)	(X)
28744 11	Solid, bulk	1,000 s. tons	24	3,335.4	3,076.5	332.0	(X)	(X)
28744 21	Solid, bagged	1,000 s. tons	20	783.9	779.5	83.6	(X)	(X)
28744 31	Fluid	1,000 s. tons	9	341.5	341.5	36.4	(X)	(X)
28744 00	Mixed fertilizers, n.s.k.		(NA)	(X)	(X)	-	(X)	(X)
28740 00	Phosphatic fertilizers, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	(X)	3.9	(X)	(X)
28740 02	Phosphatic fertilizers, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	(X)	-	(X)	(X)
			1972					
	PHOSPHATIC FERTILIZERS							
2874- --	Total		(X)	(X)	(X)	1,052.5	(X)	(X)
28741 --	Phosphoric acid (100% P_2O_5):							
28741 00	As reported in the census of manufactures		(X)	(X)	(X)	177.5	(X)	(X)
	As reported in Current Industrial Reports M28A, Inorganic Chemicals	1,000 s. tons	(X)	6,712.4	1,914.5	177.3	(D)	(D)
28741 81	From phosphorus	1,000 s. tons	(X)	936.9	249.0	45.3	(D)	(D)
28741 82	Ordinary	1,000 s. tons	(X)	486.2	152.5	28.5	(D)	(D)
28741 83	Superphosphoric	1,000 s. tons	(X)	450.7	96.5	16.8	(D)	(D)
28741 85	From other sources (phosphate rock, etc.)	1,000 s. tons	(X)	5,775.5	1,665.5	132.0	1,381.8	108.6
28741 86	Ordinary	1,000 s. tons	(X)	5,228.3	1,504.8	114.4	1,221.1	90.9
28741 87	Superphosphoric	1,000 s. tons	(X)	547.1	160.7	17.6	160.7	17.7
28742 --	Superphosphate and other phosphatic fertilizer materials		(X)	(X)	(X)	420.7	(X)	(X)
	Superphosphate:							
28742 15	Normal and enriched (less than 42% P_2O_5)[10]	1,000 s. tons	(X)	737.0	368.9	19.6	(X)	(X)
28742 41	Triple (42% P_2O_5 and over)[10]	1,000 s. tons	(X)	1,686.8	1,490.6	111.9	(X)	(X)
28742 51	Ammonium phosphates (chemically processed nitrogen-phosphorus materials comprising liquid and solid fertilizer grades of monoammonium and diammonium phosphates and their processed combinations with ammonium sulfate)[10]	1,000 s. tons	(X)	2,367.3	2,348.3	214.7	(X)	(X)
28742 61	Other phosphatic fertilizer materials (chemically processed materials such as ammonium phosphate potash mixtures, nitrophosphates, calcium metaphosphates, sodium phosphates, and wet base goods, etc.)	1,000 s. tons	(X)	502.7	498.5	42.2	(X)	(X)
28742 71	Defluorinated phosphate rock and other feed grade phosphates	1,000 s. tons	(X)	452.8	424.5	25.4	(X)	(X)
28742 00	Superphosphate and other phosphatic fertilizer materials, n.s.k.		(X)	(X)	(X)	6.9	(X)	(X)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity[2]	Product shipments[1] Value (million dollars)	Commercial product shipments only Quantity	Commercial product shipments only Value (million dollars)
			1972--Con.					
2874- --	PHOSPHATIC FERTILIZERS--Con.							
28744 --	Mixed fertilizers, produced from one or more materials (i.e., superphosphate produced in same plant) (see industry 2875, product class 28754)	.....	(X)	(X)	(X)	443.0	(X)	(X)
28744 11	Solid, bulk	1,000 s. tons	(X)	7,632.0	7,544.9	422.8	(X)	(X)
28744 21	Solid, bagged		(X)				(X)	(X)
28744 31	Fluid	1,000 s. tons	(X)				(X)	(X)
28744 00	Mixed fertilizers, n.s.k.	.....	(X)	(X)	(X)	20.2	(X)	(X)
28740 00	Phosphatic fertilizers, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(X)	(X)	(X)	11.3	(X)	(X)
28740 02	Phosphatic fertilizers, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(X)	(X)	(X)	-	(X)	(X)

1977 Product code	Product	Unit of measure	1977 Number of companies with shipments of $100,000 or more	1977 Quantity of production for all purposes	1977 Product shipments[1] Quantity[2]	1977 Product shipments[1] Value (million dollars)	1972 Quantity of production for all purposes	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	FERTILIZERS, MIXING ONLY[11]								
2875- --	Total	.....	(NA)	(X)	(X)	1,480.9	(X)	(X)	651.9
28754 --	Mixed fertilizers made by plants which do not manufacture superphosphate or other phosphatic fertilizer materials (see code 28744):								
28754 11	Solid, bulk[12]	1,000 s. tons	148	*4,456.2	*4,321.8	580.4	(X)	(X)	(X)
28754 21	Solid, bagged[12]		106	5,006.7	4,861.4	517.7			
28754 31	Fluid[12]		80	**2,114.2	**2,133.2	202.9			
	Complete mixtures (grades guaranteeing N, P_2O_5, and K_2O):								
28752 13	Shipped in dry form[13]		(X)	(X)	(X)	(X)	6,461.7	6,346.5	431.7
28752 17	Shipped in liquid form[13]		(X)	(X)	(X)	(X)	654.5	566.2	40.8
	Incomplete mixtures, including dry and liquid forms:								
28752 25	Grades guaranteeing N and P_2O_5 only, including ammoniated superphosphates[13]		(X)	(X)	(X)	(X)	330.9	330.8	19.8
28752 31	Grades guaranteeing P_2O_5 and K_2O only[13]		(X)	(X)	(X)	(X)	219.5	220.9	12.3
28752 51	Grades guaranteeing N and K_2O only[13]		(X)	(X)	(X)	(X)	233.6	226.4	12.2
28752 78	Grades guaranteeing N, P_2O_5, or K_2O only[13]	1,000 s. tons	(X)	(X)	(X)	(X)	337.4	330.3	17.7
28754 00	Mixed fertilizers made by plants which do not manufacture superphosphate or other phosphatic fertilizer materials, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	(X)	112.6	(X)	(X)	74.2
28754 02	Mixed fertilizers made by plants which do not manufacture superphosphate or other phosphatic fertilizer materials, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	(X)	67.3	(X)	(X)	43.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity[2]	Product shipments[1] Value (million dollars)
			1977			
	AGRICULTURAL CHEMICALS, N.E.C.[14]					
2879- --	Total		(NA)	(X)	(X)	2,704.0
28795 --	Insecticidal preparations (formulations) primarily for agricultural, garden, and health service use		(NA)	(X)	(X)	828.2
	Inorganic compound-containing preparations:					
28795 11	Arsenical insecticidal preparations	Million lb.	3	*56.5	*57.3	48.4
28795 19	Other inorganic insecticidal preparations	Million lb.	8	*56.5	*57.3	48.4
	Organic compound-containing preparations:					
28795 21	Chlorinated hydrocarbon insecticidal preparations	Million lb.	40	64.7	68.4	45.6
28795 31	Carbamate insecticidal preparations	Million lb.	24	569.4	588.2	272.8
28795 41	Organo-phosphate insecticidal preparations	Million lb.	49	262.9	251.9	297.2
28795 61	Biological (botanical, bacterial, etc.) insecticidal preparations	Million lb.	12	(S)	(S)	43.5
28795 79	Other organic insecticidal preparations	Million lb.	15	93.5	92.7	105.6
28795 00	Insecticidal preparations (formulations) primarily for agricultural, garden, and health service use, n.s.k.		(NA)	(X)	(X)	15.1
28796 --	Herbicidal preparations (formulations) primarily for agricultural, garden, and health service use		(NA)	(X)	(X)	1,177.1
	Inorganic compound-containing preparations:					
28796 11	Arsenical herbicidal preparations	Million lb.	5	38.6	22.7	43.6
28796 19	Other inorganic herbicidal preparations	Million lb.	6	38.6	22.7	43.6
	Organic compound-containing preparations:					
28796 31	Carbamate herbicidal preparations	Million lb.	4	(15)	(15)	(15)
28796 41	Phenoxy compound herbicidal preparations	Million lb.	20	**166.6	**167.1	119.9
28796 51	Metal organic herbicidal preparations	Million lb.	5	48.1	48.0	52.5
28796 61	Urea herbicidal preparations	Million lb.	7	10.0	10.2	16.4
28796 65	Triazine herbicidal preparations	Million lb.	9	207.3	147.0	351.6
28796 71	Amide herbicidal preparations	Million lb.	2	37.4	36.9	21.0
28796 75	Benzoic herbicidal preparations	Million lb.	4	57.9	22.3	25.6
28796 79	Other organic herbicidal preparations	Million lb.	26	[15]395.3	[15]342.7	[15]529.4
28796 00	Herbicidal preparations (formulations) primarily for agricultural, garden, and health service use, n.s.k.		(NA)	(X)	(X)	17.1
28797 --	Fungicidal preparations (formulations) primarily for agricultural, garden, and health service use		(NA)	(X)	(X)	196.9
	Inorganic compound-containing preparations:					
28797 11	Arsenical fungicidal preparations	Million lb.	1	.7	.7	.2
28797 15	Sulfur fungicidal preparations	Million lb.	6	45.7	43.8	9.8
28797 19	Other inorganic fungicidal preparations, including copper sulfate, bordeaux, CuO_2, etc	Million lb.	8	30.8	31.0	21.7
	Organic compound-containing preparations:					
28797 31	Carbamate fungicidal preparations	Million lb.	11	37.6	37.4	86.8
28797 51	Metal organic fungicidal preparations	Million lb.	2	37.6	37.4	86.8
28797 79	Other organic fungicidal preparations	Million lb.	13	63.8	63.2	77.3
28797 00	Fungicidal preparations (formulations) primarily for agricultural, garden, and health service use, n.s.k.		(NA)	(X)	(X)	1.1
28798 --	Other pesticidal preparations primarily for agricultural, garden, and health service use, n.e.c.		(NA)	(X)	(X)	119.9
	Arsenic compounds (calcium and lead arsenate):					
28798 10	As reported in census of manufactures		4	(X)	(X)	(D)
	As reported in Current Industrial Reports MA-28A, Inorganic Chemicals...	1,000 s. tons	(NA)	(D)	(D)	(D)
28798 07	Lead arsenate, acid and basic	1,000 s. tons	(NA)	(D)	(D)	(D)
28798 08	Calcium arsenate, commercial	1,000 s. tons	(NA)	(D)	(D)	(D)
	Fumigants:					
28798 12	Soil fumigants	Million lb.	7	93.7	93.3	36.7
28798 18	All other fumigants, including space, excluding household-space fumigants	Million lb.	4	(D)	(D)	(D)
28798 22	Defoliants and dessicants	Million lb.	5	10.1	10.7	13.1
28798 32	Rodenticides	Million lb.	7	5.6	5.5	4.5
28798 98	All other pesticidal preparations, primarily for agricultural and health service use, n.e.c., including disinfectants, animal dips, nematocides, miticides, molluscicides, soil conditioners, etc	Million lb.	20	(S)	(S)	46.6
28798 00	Other pesticidal preparations primarily for agricultural, garden, and health service use, n.e.c., n.s.k.		(NA)	(X)	(X)	7.9
28799 --	Household pesticidal preparations, including industrial exterminants		(NA)	(X)	(X)	227.8
	Insecticides for crawling insects, excluding fumigants:					
28799 12	Aerosols		18	(X)	(X)	86.5
28799 15	Nonaerosols		17	(X)	(X)	23.0
	Insecticides for flying insects, excluding fumigants:					
28799 21	Aerosols		17	(X)	(X)	45.5
28799 24	Nonaerosols		14	(X)	(X)	17.4
28799 35	Repellents and attractants for insects, birds, fish, and other animals		5	(X)	(X)	35.0
28799 71	Rodenticides		6	(X)	(X)	35.0
28799 85	Fumigants, other than soil fumigants, including space		3	(X)	(X)	35.0
28799 98	Other household pesticidal preparations, n.e.c.		12	(X)	(X)	13.9
28799 00	Household pesticidal preparations, including industrial exterminants, n.s.k.		(NA)	(X)	(X)	6.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity[2]	Product shipments[1] Value (million dollars)
			1977--Con.			
2879- --	AGRICULTURAL CHEMICALS, N.E.C.[14]--Con.					
28790 00	Agricultural chemicals, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	90.2
28790 02	Agricultural chemicals, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	63.9
			1972			
	AGRICULTURAL CHEMICALS, N.E.C.					
2879- --	Total	.....	(NA)	(X)	(X)	1,196.2
28791 --	Insecticidal preparations (formulations) primarily for agricultural, garden, and health service use	.....	(NA)	(X)	(X)	387.6
28791 10	Arsenic compounds (calcium and lead arsenate)	.....	(NA)	(X)	(X)	1.2
28791 13	Arsenical insecticides, including Paris green and other copper arsenicals or mixtures containing arsenicals but excluding weed killers	Million lb.....	(NA)	15.3	16.4	2.2
28791 32	Benzene hexachloride and/or lindane preparations with DDT		(NA)	4.7	4.9	1.0
	DDT-containing preparations:					
28791 32	Preparations containing DDT as the active ingredient		(NA)	129.7	126.9	29.1
28791 35	Preparations of DDT and other toxicants		(NA)			
28791 39	Chlorinated hydrocarbon pesticidal preparations other than those containing hexachloride or DDT		(NA)	200.4	197.7	55.6
	Organic phosphate-containing preparations:					
28791 43	Preparations containing parathion as the active ingredient		(NA)	25.7	26.5	12.1
28791 45	Preparations containing methyl parathion as the active ingredient		(NA)	52.5	51.0	26.1
28791 47	Preparations containing other organic phosphates as the active ingredient		(NA)	225.7	214.8	110.5
28791 61	Botanical preparations and/or concentrates for agricultural use		(NA)	2.7	2.5	1.0
28791 49	Other agricultural insecticidal preparation and/or concentrates, including petroleum oil sprays and emulsions without other toxicants, excluding botanicals	Million lb.....	(NA)	(S)	(S)	148.8
28791 00	Insecticidal preparations (formulations) primarily for agricultural, garden, and health service use, n.s.k.	.....	(NA)	(X)	(X)	([16])
28792 --	Herbicidal preparations (formulations) primarily for agricultural, garden, and health service use	.....	(NA)	(X)	(X)	432.0
28792 81	Sodium arsenite	Million lb.....	(NA)	9.7	9.3	1.3
28792 82	Sodium chlorate preparations		(NA)	(S)	(S)	1.6
28792 83	2,4-D, (2,4 dichlorophenoxyacetic acid) and derivatives		(NA)	41.9	48.0	15.4
28792 84	2,4,5-trichlorophenoxyacetic acid and derivates		(NA)	14.8	14.7	8.1
28792 85	Defoliants, except sodium chlorate preparations		(NA)	(D)	(D)	(D)
28792 86	Desiccants, including arsenic acid		(NA)	14.3	13.8	2.4
28792 87	Plant growth regulators		(NA)	(S)	(S)	1.6
28792 88	Carbamates, including CIPC, EPTC, CDAA, etc		(NA)	(D)	(D)	(D)
28792 89	Other herbicidal preparations, including algaecides, etc	Million lb.....	(NA)	(S)	(S)	347.7
28792 00	Herbicidal preparations (formulations) primarily for agricultural, garden, and health service use, n.s.k.	.....	(NA)	(X)	(X)	([16])
28793 --	Agricultural chemicals, n.e.c.	.....	(NA)	(X)	(X)	85.6
	Fungicides:					
28793 15	Sulfur-containing preparations, including wettable sulfur, sulfur dust, and lime sulfur	Million lb.....	(NA)	147.6	157.7	8.2
28793 65	Seed treatment compounds (insectides, fungicides, and inoculants)		(NA)	16.5	16.4	5.5
28793 67	Copper-containing dry preparations, including dry Bordeaux mixtures but excluding Paris green and copper sulfate		(NA)	16.9	19.4	6.8
28793 69	Other fungicidal preparations for agricultural use		(NA)	116.1	119.6	34.2
28793 71	Soil fumigants		(NA)	59.3	53.6	20.0
28793 98	Other agricultural chemicals, n.e.c., such as disinfectants, animal dips, and soil conditioners	Million lb.....	(NA)	(S)	(S)	10.9
28793 00	Agricultural chemicals, n.e.c., n.s.k.	.....	(NA)	(X)	(X)	([16])
28794 --	Household insecticides and repellants, including industrial exterminants	.....	(NA)	(X)	(X)	184.2
	Insecticides for crawling insects, excluding fumigants:					
28794 12	Aerosols	.....	(NA)	(X)	(X)	29.6
28794 15	Nonaerosols	.....	(NA)	(X)	(X)	31.2
	Insecticides for flying insects, excluding fumigants:					
28794 21	Aerosols	.....	(NA)	(X)	(X)	40.3
28794 24	Nonaerosols	.....	(NA)	(X)	(X)	20.0
28794 35	Repellants and attractants for insects, birds, fish, and other animals	.....	(NA)	(X)	(X)	13.2
28794 71	Rodenticides	.....	(NA)	(X)	(X)	42.8
28794 89	Fumigants, other than soil fumigants, including space	.....	(NA)	(X)	(X)	
28794 00	Household insecticides and repellants, n.s.k.	.....	(NA)	(X)	(X)	7.1
28790 00	Agricultural chemicals, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	(X)	[16]89.7
28790 02	Agricultural chemicals, n.e.c., n.s.k., typically for establishment with less than 10 employees (see note)	.....	(NA)	(X)	(X)	17.1

Footnotes are on next page.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in the code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For 1977, quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]1972 data include all revised figures published in CIR.

[4]Includes unspecified amounts of nitric acid produced but not withdrawn from the system.

[5]Excludes data for by-product ammonia liquor and ammonium sulfate published by U.S. Bureau of Mines. 1977 by-product quantities are not available; 1972 quantity of ammonia was 13,000 short tons and quantity of ammonium sulfate 561,000 short tons.

[6]Represents total amount of original solution produced, including amounts used for fertilizer, explosives, and other uses, and amounts consumed in manufacturing other products such as nitrogen solutions (code 28731 55).

[7]Excludes amounts converted to solid ammonium nitrate.

[8]For quantity of production and quantity and value of sales of urea produced for use in feed compounds, liquid fertilizers, solid fertilizers and plastics, see U.S. International Trade Commission annual report, Synthetic Organic Chemicals: U.S. Production and Sales, for 1977 and 1972.

[9]For 1972, product codes 28731 41 and 28731 59 were included with product code 28731 59.

[10]Data on quantity of production, shipments, plant consumption, and stocks are published in Current Industrial Reports M28B, Inorganic Fertilizer Materials and Related Products.

[11]For 1977, product detail has been substantially revised to reflect current technology and requirements for data. 1972 data are not comparable and so are presented on 1972 basis.

[12]1977 product code.

[13]1972 product code.

[14]For 1977, product detail for industry 2879 was revised to reflect industry technology and demands for data. Comparability between 1977 and 1972 product codes is as follows:

1972 to 1977				1977 to 1972			
Product code		Product code		Product code		Product code	
1972	1977	1972	1977	1977	1972	1977	1972
28791 10	28798 10	28792 89	28796 19 pt. 28796 41 pt. 28796 51 28796 61 28796 65 28796 71 28796 75 28796 79 pt.	28795 11	28791 13 pt.	28797 15	28793 15
28791 13	28795 11 28796 11 pt. 28797 11			28795 19	28791 49 pt.	28797 19	28793 65 pt. 28793 67 pt. 28793 69 pt.
28791 32 28791 33 28791 35 28791 39	28795 21			28795 21	28791 32 28791 33 28791 35 28791 39	28797 31	28792 88 pt. 28793 69 pt.
		28793 15	28797 15	28795 31	28791 49 pt. 28792 88 pt.	28797 51	28793 69 pt.
28791 43 28791 45 28791 47	28795 41	28793 65	28797 19 pt. 28797 79 pt.	28795 41	28791 43 28791 45 28791 47	28797 79	28793 65 pt. 28793 67 pt. 28793 69 pt.
		28793 67	28797 19 pt. 28797 79 pt.			28798 10	28791 10
28791 49	28795 19 28795 31 pt. 28795 61 pt. 28795 79	28793 69	28797 19 pt. 28797 31 pt. 28797 51 28797 79 pt.	28795 61	28791 61 28791 49 pt.	28798 12	28793 71
				28795 79	28791 49 pt.	28798 18	28794 85 pt.
		28793 71	28798 12	28796 11	28791 13 pt. 28792 81	28798 22	28792 85 28792 86
28791 61	28795 61 pt.	28793 98	28798 98 28799 98	28796 19	28792 82 28792 89 pt.	28798 32	28794 71 pt.
28792 81	28796 11 pt.					28798 98	28793 98 pt.
28792 82	28796 19 pt.	28794 12	28799 12	28796 31	28792 88 pt.	28799 12	28794 12
28792 83 28792 84	28796 41 pt.	28794 15	28799 15	28796 41	28792 83 28792 84 28792 89 pt.	28799 15	28794 15
		28794 21	28799 21			28799 21	28794 21
28792 85 28792 86	28798 22	28794 24	28799 24	28796 51 28796 61 28796 65 28796 71 28796 75	28792 89 pt.	28799 24	28794 24
		28794 35	28799 35			28799 35	28794 35
28792 87	28796 79 pt.	28794 71	28798 32 28799 71			28799 71	28794 71 pt.
28792 88	28795 31 28796 31 28797 31 pt.			28796 79	28792 87 28792 89 pt.	28799 85	28794 85 pt.
		28794 85	28798 18 28799 85	28797 11	28791 13 pt.	28799 98	28793 98 pt.

[15]For 1977, product code 28796 31 was included with product code 28796 79 to avoid disclosing figures of individual companies.

[16]For 1977, product codes 28791 00 and 28793 00 were included with product code 28790 00.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28731, SYNTHETIC AMMONIA, NITRIC ACID, AND AMMONIUM COMPOUNDS		
United States	2,300.8	766.2
Middle Atlantic Division:		
New York	42.6	14.6
New Jersey	28.8	20.2
Pennsylvania	25.6	EE
East North Central Division:		
Ohio	46.8	25.4
Illinois	50.5	20.0
Michigan	12.1	CC
West North Central Division:		
Iowa	113.4	46.0
Missouri	60.4	FF
Nebraska	101.1	32.2
South Atlantic Division:		
Florida	67.9	19.5
West South Central Division:		
Louisiana	380.5	101.3
Texas	245.1	88.0
Mountain Division:		
New Mexico	25.1	(NA)
Pacific Division:		
Washington	30.6	EE
California	167.5	51.7
28732, UREA		
United States	492.6	160.4
South Atlantic Division:		
North Carolina	15.1	CC
West South Central Division:		
Louisiana	141.8	21.4
28733, FERTILIZER MATERIALS OF ORGANIC ORIGIN		
United States	29.5	(S)
South Atlantic Division:		
Florida	4.5	(S)
Pacific Division:		
California	4.5	(S)
28741, PHOSPHORIC ACID		
United States	510.2	177.5
South Atlantic Division:		
Florida	183.6	GG
Pacific Division:		
California	19.5	12.3
28742, SUPERPHOSPHATE AND OTHER PHOSPHATIC FERTILIZER MATERIALS		
United States	1,586.4	420.7
East North Central Division:		
Ohio	3.5	AA
South Atlantic Division:		
Georgia	8.1	6.5
Florida	890.4	227.7
West South Central Division:		
Louisiana	289.0	FF
28744, MIXED FERTILIZERS, MADE FROM PRODUCED MATERIALS		
United States	452.0	443.0
Middle Atlantic Division:		
Pennsylvania	6.4	CC
South Atlantic Division:		
Virginia	21.2	19.3
Georgia	64.3	28.6

Product class and geographic area	Value of product shipments	
	1977	1972
28795, INSECTICIDAL PREPARATIONS, AGRICULTURAL, GARDEN, AND HEALTH USE		
United States	828.2	387.6
Middle Atlantic Division:		
New Jersey	74.5	8.0
East North Central Division:		
Illinois	30.9	12.3
West North Central Division:		
Missouri	73.5	FF
South Atlantic Division:		
Georgia	81.8	39.1
Florida	16.9	8.0
West South Central Division:		
Louisiana	37.3	CC
Pacific Division:		
California	67.4	FF
28796, HERBICIDAL PREPARATIONS, AGRICULTURAL, GARDEN, AND HEALTH USE		
United States	1,177.1	432.0
Middle Atlantic Division:		
New Jersey	34.1	CC
East North Central Division:		
Illinois	3.0	1.4
West North Central Division:		
Missouri	89.2	16.3
West South Central Division:		
Arkansas	32.1	BB
Texas	71.8	GG
Pacific Division:		
California	63.8	EE
28797, FUNGICIDAL PREPARATIONS, AGRICULTURAL, GARDEN, AND HEALTH USE		
United States	196.9	(NA)
Pacific Division:		
California	6.7	(NA)
28798, PESTICIDAL PREPARATIONS, AGRICULTURAL, GARDEN, HEALTH USE, N.E.C.		
United States	119.9	(NA)
East North Central Division:		
Illinois	22.4	(NA)
West South Central Division:		
Texas	23.1	(NA)
Pacific Division:		
California	5.1	(NA)
28799, HOUSEHOLD PESTICIDAL PREPARATIONS		
United States	227.8	184.2
New England Division:		
Massachusetts	2.5	BB
Middle Atlantic Division:		
New York	4.9	5.0
East North Central Division:		
Illinois	18.1	EE
West North Central Division:		
Missouri	11.4	CC
South Atlantic Division:		
Georgia	12.2	8.6
Pacific Division:		
California	33.3	EE

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

(NA) Not available. N.E.C. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2873-	Nitrogenous fertilizers	2,856.5	2,552.5	2,817.6	2,067.3	1,088.6	937.3	(NA)	(NA)
28731	Synthetic ammonia, nitric acid, ammonium compounds	2,300.8	2,131.1	2,448.1	1,789.8	891.5	766.2	827.3	587.8
28732	Urea	492.6	399.3	354.5	268.1	186.0	160.4	(NA)	(NA)
28733	Fertilizer materials of organic origin	29.5	(20.6)	(14.8)	(9.4)	9.9	(S)	10.0	11.8
28730	Nitrogenous fertilizers, n.s.k.	33.6	1.5	.3	-	1.2	(D)	(NA)	(NA)
2874-	Phosphatic fertilizers	2,552.6	2,249.0	2,465.2	2,009.0	1,161.2	1,052.5	(NA)	(NA)
28741	Phosphoric acid	510.2	497.9	416.0	295.4	206.3	177.5	(NA)	(NA)
28742	Superphosphate and other phosphatic fertilizer materials	1,586.4	988.5	1,209.3	913.3	443.0	420.7	542.0	321.5
28744	Mixed fertilizers, made from produced materials	452.0	764.7	844.4	789.4	503.5	443.0	426.0	394.6
28740	Phosphatic fertilizers, n.s.k.	3.9	(2)	(2)	(10.9)	8.4	11.3	4.9	-
28754	Mixed fertilizers, made from purchased materials	1,480.9	1,224.3	1,305.3	1,127.0	782.5	651.9	588.2	492.7
2879-	Agricultural chemicals, n.e.c.	2,704.0	2,559.5	2,298.2	1,842.5	1,326.6	1,196.2	964.2	599.5
28795	Insecticidal preparations, agricultural, garden, and health use	828.2	685.9	669.0	601.0	449.8	387.6	(NA)	(NA)
28796	Herbicidal preparations, agricultural, garden, and health use	1,177.1	1,303.4	1,184.5	866.0	520.6	432.0	(NA)	(NA)
28797	Fungicidal preparations, agricultural, garden, and health use	196.9							
28798	Pesticidal preparations, agricultural, garden, health use, n.e.c.	119.9	(269.3)	194.4	126.6	113.8	85.6	(NA)	(NA)
28799	Household pesticidal preparations	227.8	271.4	242.2	(210.0)	183.3	184.2	129.9	85.9
28790	Agricultural chemicals, n.e.c., n.s.k.	154.1	(29.3)	(S)	38.9	59.1	106.8	(NA)	(NA)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Total consumption of materials	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant
				1977			
	INDUSTRY 2873, NITROGENOUS FERTILIZERS						
	Materials, containers, and supplies	.....	.....	(X)	(X)	893.5	(X)
	Nitrogenous materials:						
287312	Ammonia, synthetic, anhydrous	100% NH_3.....	1,000 s. tons.	7,330.5	2,045.1	191.3	5,285.4
287313	Ammoniating or nitrogen solutions, including mixtures containing urea	100% N.....		706.7	(D)	(D)	(D)
287314	Ammonium nitrate	100% NH_4NO_3...		2,843.6	268.4	16.6	2,575.2
287315	Ammonium sulfate	100% $(NH_4)_2SO_4$		(D)	2.0	.2	(D)
287321	Urea	100% $CO(NH_2)_2$.		2,041.7	455.9	47.0	1,585.8
287316	Other chemical nitrogenous materials, including potassium nitrate, calcium cyanamide, ammonium nitrate, and limestone mixtures	.....		1,558.2	*359.4	19.8	1,198.9
200011	Organic ammoniates	.....		(X)	(D)	(D)	(X)
	Phosphatic materials:						
	Superphosphate used in mixed goods:						
287421	Normal and enriched (less than 42% P_2O_5)	100% P_2O_5.....					
287424	Triple (42% P_2O_5 and over)						
	Other phosphatic materials, including wet-base goods, ammonium phosphates, etc.:			75.5	37.8	3.1	37.7
287425	Diammonium phosphate, solid grade						
287427	Other ammonium phosphates						
287428	Other phosphatic fertilizer materials						
287410	Phosphoric acid	100% P_2O_5.....		(D)	76.1	15.0	(D)
	Potassic materials:						
147401	Muriate of potash, including all grades converted to 60-62% K_2O basis	K_2O 60-62%....		(X)	83.7	5.5	(X)
147402	Other potash bearing materials (potassium sulfate, etc.)	.....		(X)	12.0	1.1	(X)
999821	Inert fillers, secondary plant food, and soil conditioners, including sand, limestone, peat, nut hulls, citrus meals, etc	.....		(X)	**65.7	2.2	(X)
	Sulfuric acid:						
281931	Sulfuric acid, except spent	100% H_2SO_4....		(D)	206.1	4.5	(D)
281933	Spent sulfuric acid	100% H_2SO_4....		(D)	(D)	(D)	(D)
147501	Phosphate rock	.....	1,000 s. tons.	(X)	(D)	(D)	(X)
147701	Sulfur	.....	1,000 l. tons.	(X)	244.8	12.2	(X)
131152	Natural gas used as raw material, including feedstock and process sheet	.....	Bil. cu. ft...	(X)	247.5	323.9	(X)
	Containers:						
239300	Textile	.....	.....	(X)	(X)	-	(X)
264302	Bags, except textile, including shipping sacks, multiwall bags, and polyethylene liners	.....	.....	(X)	(X)	7.6	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	(X)	207.9	(X)
971000	Materials, containers, and supplies, n.s.k.[2]	.....	.....	(X)	(X)	22.4	(X)
				1972			
	INDUSTRY 2873, NITROGENOUS FERTILIZERS						
	Materials, containers, and supplies	.....	.....	(X)	(X)	214.9	(X)
	Nitrogenous materials:						
287312	Ammonia, synthetic, anhydrous	100% NH_3.....	1,000 s. tons.	4,606.6	960.4	31.0	3,646.2
287311	Nitric acid	100% HNO_3.....		4,260.7	(D)	(D)	(D)
287410	Phosphoric acid	100% P_2O_5.....		190.9	(D)	(D)	(D)
281931	Sulfuric acid	100% H_2SO_4....	1,000 s. tons.	417.7	29.5	.7	388.2
131152	Natural gas used as raw material	.....	Bil. cu. ft...	(X)	212.4	72.6	(X)
355911	Parts and attachments for chemical industries machinery and equipment	.....	.....	(X)	(X)	9.5	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	(X)	85.8	(X)
971000	Materials, containers, and supplies, n.s.k.[2]	.....	.....	(X)	(X)	4.4	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Total consumption of materials	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant
				1977			
	INDUSTRY 2874, PHOSPHATIC FERTILIZERS						
	Materials, containers, and supplies	.....	.....	(X)	(X)	1,611.0	(X)
	Nitrogenous materials:						
287312	Ammonia, synthetic, anhydrous	100% NH_3	1,000 s. tons.	2,517.3	1,617.8	178.0	899.5
287313	Ammoniating or nitrogen solutions, including mixtures containing urea	100% N		79.2	79.2	13.0	-
287314	Ammonium nitrate	100% NH_4NO_3		28.8	28.8	3.7	-
287315	Ammonium sulfate	100% $(NH_4)_2SO_4$		111.0	111.0	8.0	-
287321	Urea	100% $CO(NH_2)_2$		(D)	28.2	3.9	(D)
287316	Other chemical nitrogenous materials, including potassium nitrate, calcium cyanamide, ammonium nitrate, and limestone mixtures	.....		38.1	38.1	4.1	-
200011	Organic ammoniates	.....		(X)	1.6	.3	(X)
	Phosphatic materials:						
	Superphosphate used in mixed goods:						
287421	Normal and enriched (less than 42% P_2O_5)	100% P_2O_5		706.8	236.6	13.8	470.2
287424	Triple (42% P_2O_5 and over)			(D)	85.0	9.9	(D)
	Other phosphatic materials, including wet base goods, ammonium phosphates, etc:						
287425	Diammonium phosphate, solid grade			(D)	52.9	10.1	(D)
287427	Other ammonium phosphates			(D)	20.4	3.1	(D)
287428	Other phosphatic fertilizer materials			(D)	39.3	3.3	(D)
287410	Phosphoric acid	100% P_2O_5		5,401.4	1,035.4	175.7	4,366.0
	Potassic materials:						
147401	Muriate of potash, including all grades converted to 60-62% K_2O basis	K_2O 60-62%		(X)	968.9	63.9	(X)
147402	Other potash bearing materials (potassium sulfate, etc.)	.....		(X)	139.9	11.0	(X)
999821	Inert fillers, secondary plant food, and soil conditioners, including sand, limestone, peat, nut hulls, citrus meals, etc	.....		(X)	199.7	3.0	(X)
	Sulfuric acid:						
281931	Sulfuric acid, except spent	100% H_2SO_4		13,346.1	1,540.8	35.6	11,805.3
281933	Spent sulfuric acid	100% H_2SO_4		(D)	236.8	4.9	(D)
147501	Phosphate rock	.....	1,000 s. tons.	(X)	20,745.7	413.4	(X)
147701	Sulfur	.....	1,000 l. tons.	(X)	6,197.4	374.2	(X)
131152	Natural gas used as raw material, including feedstock and process sheet	.....	Bil. cu. ft.	(X)	28.2	38.6	(X)
	Containers:						
239300	Textile	.....	.....	(X)	-	-	(X)
264302	Bags, except textile, including shipping sacks, multiwall bags, and polyethylene liners	.....	.....	(X)	(X)	3.6	(X)
970099	All other materials and components, parts, containers, and supplies	.....	.....	(X)	(X)	201.9	(X)
971000	Materials, containers, and supplies, n.s.k.[2]	.....	.....	(X)	(X)	34.0	(X)
				1972			
	INDUSTRY 2874, PHOSPHATIC FERTILIZERS						
	Materials, containers, and supplies	.....	.....	(X)	(X)	615.1	(X)
	Nitrogenous materials:						
387312	Ammonia, synthetic, anhydrous	100% NH_3	1,000 s. tons.	1,819.3	1,141.4	43.5	677.9
287313	Ammoniating or nitrogen solutions, including mixtures containing urea	100% N		(X)	204.4	10.9	(X)
287314	Ammonium nitrate	100% NH_4NO_3		(X)	49.2	2.4	(X)
287315	Ammonium sulfate	100% $(NH_4)_2SO_4$		(X)	290.4	11.0	(X)
281975	Sodium nitrate	100% $NaNO_3$		(X)	(D)	(D)	(X)
287321	Urea	100% $CO(NH_2)_2$		(X)	15.9	.9	(X)
287316	Other chemical nitrogenous materials, including potassium nitrate, calcium cyanamide, ammonium nitrate, and limestone mixtures[4]	.....		(X)	37.5	2.2	(X)
200011	Organic ammoniates	.....		(X)	4.6	.6	(X)
	Phosphatic materials:						
	Superphosphate used in mixed goods:						
287421	Normal and enriched (less than 42% P_2O_5)	100% P_2O_5		838.3	339.7	7.7	498.6
287424	Triple (42% P_2O_5 and over)			419.1	234.3	14.8	184.8
	Other phosphatic materials, including wet base goods, ammonium phosphates, etc:						
287425	Diammonium phosphate, solid grade			} 118.2	79.6	6.2	38.6
287427	Other ammonium phosphates						
287428	Other phosphatic fertilizer materials						
287410	Phosphoric acid	100% P_2O_5	1,000 s. tons.	4,331.2	667.6	53.3	3,663.6

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Basis	Unit of measure	Total consumption of materials	Consumption of materials received from other establishments: Quantity[1]	Consumption of materials received from other establishments: Delivered cost (million dollars)	Materials made and consumed in same plant
				1972--Con.			
	INDUSTRY 2874, PHOSPHATIC FERTILIZERS--Con.						
	Potassic materials:						
147401	Muriate of potash, including all grades converted to 60-62% K_2O basis	K_2O 60-62%	1,000 s. tons.	(X)	1,336.7	49.2	(X)
147402	Other potash bearing materials (potassium sulfate, etc.)			(X)	117.8	5.7	(X)
999821	Inert fillers, secondary plant food, and soil conditioners, including sand, limestone, peat, nut hulls, citrus meals, etc			(X)	310.6	3.4	(X)
	Sulfuric acid:						
281931	Sulfuric acid, except spent	100% H_2SO_4		14,551.2	940.9	13.7	13,610.3
281933	Spent sulfuric acid	100% H_2SO_4		869.5	307.8	4.0	561.7
147501	Phosphate rock		1,000 s. tons.	(X)	21,245.4	139.5	(X)
147701	Sulfur		1,000 l. tons.	(X)	4,806.2	114.8	(X)
131152	Natural gas used as a raw material, including feedstock and process sheet		Bil. cu. ft.	(X)	(3)	(3)	(X)
	Containers:						
239300	Textile			(X)	(X)	(D)	(X)
264302	Bags, except textile, including shipping sacks, multiwall bags, and polyethylene liners			(X)	(X)	6.8	(X)
970099	All other materials and components, parts, containers, and supplies			(X)	(X)	3105.2	(X)
971000	Materials, containers, and supplies, n.s.k.[2]			(X)	(X)	18.9	(X)

1977 material code	Material	Basis	Unit of measure	1977: Quantity[1]	1977: Delivered cost (million dollars)	1972: Quantity	1972: Delivered cost (million dollars)
	INDUSTRY 2875, FERTILIZERS, MIXING ONLY						
	Materials, containers, and supplies			(X)	1,070.8	(X)	412.0
	Nitrogenous materials:						
287312	Ammonia, synthetic, anhydrous	100% NH_3	1,000 s. tons.	144.3	19.3	135.3	6.5
287313	Ammoniating or nitrogen solutions, including mixtures containing urea	100% N		253.2	29.3	344.8	23.7
287314	Ammonium nitrate	100% NH_4NO_3		220.8	24.7	326.6	17.0
287315	Ammonium sulfate	100% $(NH_4)_2SO_4$		465.8	38.0	436.8	11.3
287321	Urea	100% $(O(NH_2)_2$		317.7	45.7	117.8	10.9
287316	Other chemical nitrogenous materials, including potassium nitrate, calcium cyanamide, ammonium nitrate, and limestone mixtures[4]			210.2	25.5	113.6	8.9
200011	Organic ammoniates			62.0	5.6	96.7	5.6
	Phosphatic materials:						
	Superphosphate used in mixed goods:						
287421	Normal and enriched (less than 42% P_2O_5)	100% P_2O_5		**561.6	40.1	(S)	23.0
287424	Triple (42% P_2O_5 and over)			464.1	50.4	298.5	31.3
	Other phosphatic materials, including wet-base goods, ammonium phosphates, etc:						
287425	Diammonium phosphate, solid grade			452.6	65.9	339.6	32.4
287427	Other ammonium phosphates			86.9	14.8		
287428	Other phosphatic fertilizer materials			**200.4	22.4		
287410	Phosphoric acid	100% P_2O_5		*449.5	72.8	293.0	25.0
	Potassic materials:						
147401	Muriate of potash, including all grades converted to 60-62% K_2O basis	K_2O 60-62%		1,566.6	113.8	1,368.4	56.8
147402	Other potash bearing materials (potassium sulfate, etc.)			267.1	26.9	228.3	11.6
999821	Inert fillers, secondary plant food, and soil conditioners, including sand, limestone, peat, nut hulls, citrus meals, etc			1,013.4	18.0	920.0	12.6
	Sulfuric acid:						
281931	Sulfuric acid, except spent	100% H_2SO_4		**136.2	4.4	123.9	2.4
281933	Spent sulfuric acid	100% H_2SO_4		42.7	2.3	(5)	(5)
147501	Phosphate rock		1,000 s. tons.	(D)	(6)	56.8	.9
147701	Sulfur		1,000 l. tons.	5.2	.4	(5)	(5)
	Containers:						
239300	Textile			(X)	-	(X)	13.8
264302	Bags, except textile, including shipping sacks multiwall-bags and polyethylene liners			(X)	23.1		
970099	All other materials and components, parts, containers, and supplies			(X)	6124.8	(X)	546.7
971000	Materials, containers, and supplies, n.s.k.[2]			(X)	302.6	(X)	71.6

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 2879, AGRICULTURAL CHEMICALS, N.E.C.					
	Materials, containers, and supplies	.....	(X)	1,210.6	(X)	414.6
	Solvents:					
291104	Petroleum distillates	Million lb.....	255.2	18.5		
286926	Other synthetic organic chemical solvents		251.5	91.6		
	Inorganic carriers:					
329507	Granular		323.0	9.5		
329509	Dust and powders		212.8	6.5		
280035	Aerosol propellants		(S)	.8		
	Toxicants:					
286941	Synthetic organic pesticides and related synthetic organic agricultural chemicals		349.5	326.6		
281907	Inorganic chemicals		*527.2	83.6	(X)	(7)
284301	Surfactants	Million lb.....	(S)	9.2		
	Containers:					
307940	Plastics	.....	(X)	12.0		
322102	Glass	.....	(X)	3.7		
265001	Paperboard boxes and containers, including folding, corrugated, and setup boxes	.....	(X)	21.6		
340001	Metal	.....	(X)	91.8		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	432.7		
971000	Materials, containers, and supplies, n.s.k.[2]	.....	(X)	102.4		

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on the quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments what were not mailed a form.

[3]For 1972, material code 131152 was included with material code 970099.

[4]For 1972, sodium nitrate was published separately, with quantity of 14.8 thousand short tons and value of $.8 million.

[5]For 1972, material codes 281933 and 147701 were included with material code 970099.

[6]For 1977, material code 147501 was combined with material code 970099 to avoid disclosing operations of individual companies.

[7]For 1972, detailed materials data are not available.

Miscellaneous Chemical Products

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DESCRIPTION OF INDUSTRIES

MISCELLANEOUS CHEMICAL PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title	
2891	Adhesives and Sealants
2892	Explosives
2893	Printing Ink
2895	Carbon Black
2899	Chemical Preparations, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2891, ADHESIVES AND SEALANTS

This industry comprises establishments primarily engaged in the manufacture of industrial and household adhesives, glues, caulking compounds, sealants, and cements produced from vegetable, animal, and synthetic materials. Establishments primarily engaged in the manufacture of plastics and resin materials, including resins for protective coatings, are classified in Industry 2821, Plastics and Resin Materials. Establishments primarily engaged in the manufacture of putties, wood fillers, and sealers are classified in Industry 2851, Paint and Allied Products.

The total value of shipments for establishments classified in the Adhesives and Sealants industry amounted to $1,808 million in 1977, an increase of 95 percent from 1972. The value of shipments of products classified as primary to the industry was $1,873 million, an increase of 96 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $748 million in 1977, was 75 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 16.6 thousand employees, an increase of 11 percent from 1972. The leading States in employment were Ohio, California, Illinois, and New Jersey, accounting for approximately 45 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 2892, EXPLOSIVES

This industry comprises establishments primarily engaged in the manufacture of high explosives, blasting accessories, and related products. Establishments primarily engaged in the manufacture of ammunition are classified in Industries 3482, Small Arms Ammunition and 3483, Ammunition, Except for Small Arms, N.E.C. Establishments primarily engaged in the manufacture of fireworks are classified in Industry 2899, Chemicals and Chemical Preparations, N.E.C.

Statistics for the Explosives industry include selected data reported by government-owned, contractor-operated (GOCO) establishments. Data for all materials consumed except fuels and electric energy, as well as data for fixed assets, capital expenditures, and inventories, are excluded from this report for the GOCO plants; value of shipments and value added by manufacture have been estimated from averages reported for commercial establishments in prior years. These establishments represent 34 percent of the industry employment in 1977, compared with 58 percent in 1972.

The total value of shipments for establishments classified in the Explosives industry amounted to $666 million in 1977, an increase of 65 percent from 1972. The value of shipments of products classified as primary to the industry was $436 million, an increase of 83 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the prod-

ucts of the industry. Value added by manufacture, at 411 million in 1977, was 46 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.3 thousand employees, a decrease of 34 percent from 1972. The leading States in employment were Virginia, Tennessee, Pennsylvania, and New Jersey, accounting for approximately 55 percent of the industry's 1977 employment. Data for Virginia, Tennessee, and New Jersey have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 2893, PRINTING INK

This industry comprises establishments primarily engaged in the manufacture of lithographic, letterpress, gravure, flexographic, screen process, and similar printing inks. Establishments primarily engaged in the manufacture of writing, stamp pad, and related inks, and household tints and dyes are classified in Industry 2899, Miscellaneous Chemical Preparations, N.E.C.

The total value of shipments for establishments classified in the Printing Ink industry amounted to $945 million in 1977, an increase of 86 percent from 1972. The value of shipments of products classified as primary to the industry was $904 million, an increase of 82 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were flexographic inks, for which shipments increased 114 percent, and lithographic and offset inks for which shipments increased 100 percent. Shipments of flexographic inks also increased as a percent of total value of product shipments, from 15 percent in 1972 to 17 percent in 1977. This reflects the growing demand for flexible packaging products. In addition lithographic inks increased as a percent of total product shipments, from 30 percent in 1972 to 34 percent in 1977, reflecting the continuing shift from the letterpress to the lithographic printing process. Value added by manufacture, at 368 million in 1977, was 59 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.1 thousand employees, an increase of 5 percent from 1972. The leading States in employment were Illinois, New Jersey, California, and Ohio, accounting for approximately 55 percent of the industry's 1977 employment. Data for New Jersey have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of shipments.

INDUSTRY 2895, CARBON BLACK

This industry comprises establishments primarily engaged in the manufacture of carbon black by the furnace and channel processes. Establishments primarily engaged in the manufacture of lamp black and bone black are classified in Industry 2816, Inorganic Pigments.

Consumption of feedstocks by carbon black manufactures shifted substantially between 1972 and 1977. Natural gas as a raw material declined 43 percent from the 1972 level to 25.2 billion cubic feet in 1977, while fuel oil (including both fuel oil and other liquid hydrocarbons used as carbon black feedstocks) increased 13 percent to 15.6 million barrels in 1977. This reflects the sixfold increase in the unit cost of natural gas, compared with a threefold increase in the unit cost of fuel oil.

The total value of shipments for establishments classified in the Carbon Black industry amounted to $468 million in 1977, an increase 106 percent from 1972. The value of shipments of products classified as primary to the industry was $466 million, an increase of 105 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $170 million in 1977, was 24 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 2.5 thousand employees, a decrease of 14 percent from 1972. The leading States in employment were Louisiana and Texas, accounting for approximately 80 percent of the industry's 1977 employment.

No establishments in this industry were excluded from the mail portion of the census. There were no establishments for which administrative records were used.

INDUSTRY 2899, CHEMICAL PREPARATIONS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of miscellaneous chemical preparations, not elsewhere classified, such as salt evaporated from seawater or brine, fatty acids, essential oils, gelatin (except vegetable), sizes, bluing, laundry sours, writing and stamp pad inks; and industrial compounds, such as boiler and heat insulating compounds, metal, oil and water treating compounds, waterproofing compounds, and chemical supplies for foundries. Establishments primarily engaged in the manufacture of vegetable gelatin (agar-agar) are classified in industry 2833, and dessert prepara-

tions based on gelatin in industry 2099. Establishments primarily engaged in mining, crushing, and screening rock salt are classified in industry 1476, and establishments primarily engaged in extracting brine in industry 1479.

The total value of shipments for establishments classified in the Chemical Preparations, N.E.C. industry amounted to $3,951 million in 1977, an increase of 79 percent from 1972. The value of shipments of products classified as primary to the industry was $4,244 million, an increase of 90 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were fatty acids (produced for sale as such), for which shipments increased 127 percent, and evaporated salt, for which shipments increased 84 percent. Value added by manufacture, at $1,842 million in 1977, was 64 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 35.3 thousand employees, a decrease of 5 percent from 1972. The leading States in employment were Ohio, New Jersey, Texas, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment. Data for Illinois have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2891, ADHESIVES AND SEALANTS[3]																
1977 Census--	403	572	212	16.6	230.2	10.2	20.5	113.2	747.8	1 067.1	1 808.1	38.9	(NA)	201.8	89	81
1976 ASM----	(NA)	(NA)	(NA)	14.3	190.9	8.3	16.8	85.0	637.9	891.5	1 516.1	27.2	363.7	173.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	15.1	192.8	8.2	15.9	78.4	595.7	820.1	1 404.5	43.2	381.5	177.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	15.7	182.1	9.0	17.8	80.0	610.0	781.4	1 369.3	44.7	353.5	174.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	16.2	173.3	9.4	19.4	82.6	520.4	621.1	1 137.0	36.6	404.0	127.6	(NA)	(NA)
1972 Census--	316	463	187	14.9	148.2	8.5	17.6	68.8	426.6	504.0	928.0	24.9	353.9	101.9	89	82
INDUSTRY 2892, EXPLOSIVES																
1977 Census--	62	97	53	12.3	173.2	8.4	16.1	101.4	410.7	258.3	666.3	26.1	(NA)	59.8	86	95
1976 ASM----	(NA)	(NA)	(NA)	11.8	157.1	7.8	14.6	90.3	370.4	228.0	602.6	17.5	(D)	52.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	14.2	170.5	9.7	18.2	102.8	360.9	231.4	613.0	22.4	(D)	57.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	15.7	167.9	11.4	21.3	108.2	374.8	177.8	548.2	20.6	(S)	47.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	16.5	165.3	11.6	22.5	104.3	301.9	125.1	429.4	12.5	(S)	39.7	(NA)	(NA)
1972 Census--	55	92	50	18.6	178.9	13.3	25.8	115.6	281.7	121.3	402.7	30.1	(S)	38.1	92	95
1971 ASM----	(NA)	(NA)	(NA)	19.5	179.5	13.4	27.3	113.7	238.0	180.3	424.3	10.9	(S)	57.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	25.2	216.4	17.4	35.5	138.1	275.8	196.7	503.9	17.4	(S)	40.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	34.7	273.1	25.1	50.4	183.5	392.9	318.2	694.2	19.6	(S)	86.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	35.8	255.8	26.6	53.4	177.3	398.0	300.9	699.5	27.6	202.5	41.1	(NA)	(NA)
1967 Census--	37	92	52	32.8	227.0	24.1	47.9	156.3	376.0	270.7	647.0	21.8	188.0	39.1	92	93
1966 ASM----	(NA)	(NA)	(NA)	23.9	165.6	17.3	34.2	104.5	255.3	218.8	469.4	22.9	(NA)	39.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	14.1	93.6	9.8	19.2	60.4	177.7	123.4	296.4	9.0	(NA)	32.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	13.5	88.7	9.6	18.7	57.0	169.7	120.6	288.9	7.5	124.5	27.6	(NA)	(NA)
1963 Census--	41	68	47	14.8	91.6	10.9	20.9	60.1	165.7	116.4	283.3	5.5	121.5	27.2	88	94
INDUSTRY 2893, PRINTING INK																
1977 Census--	205	446	157	10.1	145.1	5.8	11.4	71.6	367.8	583.5	944.9	17.0	(NA)	116.7	97	97
1976 ASM----	(NA)	(NA)	(NA)	9.0	128.7	5.0	10.0	62.7	342.6	436.4	772.7	12.1	152.3	92.2	(NA)	(NA)
1975 ASM[6]---	(NA)	(NA)	(NA)	9.0	115.5	5.3	9.0	58.1	311.5	416.7	729.7	17.9	147.2	92.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	8.8	100.8	5.4	10.5	53.3	283.2	364.4	640.1	14.0	128.2	95.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.8	105.3	6.1	12.1	55.4	240.7	311.9	550.5	7.4	139.8	76.1	(NA)	(NA)
1972 Census--	213	407	145	9.6	99.3	5.8	12.1	49.8	232.0	281.7	508.4	12.6	145.0	67.9	95	93
1971 ASM----	(NA)	(NA)	(NA)	8.2	75.6	5.1	10.4	39.2	173.9	229.2	401.6	12.4	124.2	55.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.1	76.1	5.7	11.7	39.9	172.4	226.1	399.8	12.2	128.9	52.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	10.8	91.1	6.5	13.4	51.0	191.1	259.6	448.1	15.1	107.6	59.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	10.4	85.5	6.4	13.5	46.6	186.6	231.4	414.8	9.3	101.7	51.8	(NA)	(NA)
1967 Census--	207	360	124	9.7	74.0	6.4	13.6	41.1	166.6	211.9	375.6	7.1	97.8	44.7	93	95
1966 ASM[6]---	(NA)	(NA)	(NA)	10.1	74.7	6.4	13.7	41.4	181.5	198.3	377.0	3.5	(NA)	44.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	9.3	67.7	6.0	12.8	38.3	162.5	174.2	335.2	4.5	(NA)	37.5	(NA)	(NA)
1964 ASM[6]---	(NA)	(NA)	(NA)	8.5	61.7	5.4	12.1	35.0	136.6	166.1	299.8	7.4	78.4	36.0	(NA)	(NA)
1963 Census--	216	348	103	8.5	55.9	5.6	11.8	32.4	125.1	143.6	268.0	4.6	73.1	31.1	93	92
INDUSTRY 2895, CARBON BLACK																
1977 Census--	8	31	31	2.5	42.5	2.0	4.6	32.5	170.2	303.9	468.4	22.7	(NA)	32.7	[7]95	[7]95
1976 ASM----	(NA)	(NA)	(NA)	2.4	38.4	1.9	4.4	29.1	133.3	231.7	367.0	19.5	311.6	28.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	2.3	32.7	1.8	4.0	24.2	99.9	204.9	306.5	30.5	299.0	29.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	2.9	35.2	2.3	5.1	27.1	141.0	201.4	330.0	16.6	280.3	37.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	2.9	33.0	2.3	5.0	25.4	133.6	106.1	239.5	14.2	267.8	19.2	(NA)	(NA)
1972 Census--	11	37	33	2.9	31.9	2.3	5.1	24.1	137.6	88.9	227.0	11.8	265.1	18.1	[7]95	[7]95
1971 ASM----	(NA)	(NA)	(NA)	3.2	31.8	2.6	5.2	23.3	137.9	85.8	223.4	17.8	280.3	21.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	3.3	31.0	2.5	5.4	22.7	128.8	85.2	215.5	20.5	244.5	19.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	2.9	26.5	2.3	5.2	20.3	125.5	75.0	201.2	15.8	192.9	15.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	2.8	23.8	2.3	5.0	18.5	125.9	72.7	199.1	27.0	193.0	15.4	(NA)	(NA)
1967 Census--	11	34	29	2.8	22.8	2.3	5.2	18.0	100.8	67.4	167.8	23.4	170.2	16.5	100	(D)
1966 ASM----	(NA)	(NA)	(NA)	2.9	23.5	2.3	5.0	18.2	113.1	75.6	187.8	13.3	(NA)	17.4	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	2.8	21.2	2.3	5.0	16.5	105.5	65.5	170.5	10.1	(NA)	16.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	2.8	21.0	2.2	4.9	15.2	101.0	62.2	164.4	8.0	133.3	15.4	(NA)	(NA)
1963 Census--	8	33	31	3.0	20.7	2.3	4.9	14.9	91.8	55.5	149.1	4.0	132.2	15.0	(D)	(D)

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
	INDUSTRY 2899, CHEMICAL PREPARATIONS, N.E.C.[3]															
1977 Census--	1 479	1 639	384	35.3	483.4	20.7	41.5	242.0	1 841.7	2 122.5	3 950.6	182.6	(NA)	456.5	87	77
1976 ASM----	(NA)	(NA)	(NA)	36.6	461.1	22.0	42.3	228.5	1 634.8	1 930.4	3 545.0	244.9	1 325.6	477.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	34.7	407.6	20.6	39.6	196.6	1 409.2	1 616.0	3 009.2	147.4	1 091.2	439.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	37.7	405.0	22.7	44.2	203.0	1 489.4	1 700.1	3 127.8	97.2	971.3	436.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	35.8	382.0	22.1	44.8	184.7	1 171.6	1 301.0	2 466.5	79.5	931.9	300.5	(NA)	(NA)
1972 Census--	1 485	1 606	360	37.1	356.0	22.6	43.9	176.0	1 124.7	1 086.4	2 202.3	71.3	919.3	254.7	84	75

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2891, ADHESIVES AND SEALANTS											
1977 Census--	13 856	(NA)	61	2 011	5.51	59	71	(NA)	45 014	30	36.45
1976 ASM----	13 349	25 433	58	2 024	5.05	58	71	23	44 608	29	37.97
1975 ASM----	12 768	25 264	54	1 939	4.93	58	72	27	39 450	32	37.46
1974 ASM----	11 598	22 515	57	1 977	4.49	57	70	25	38 853	29	34.26
1973 ASM----	10 697	24 938	58	2 063	4.25	54	69	35	32 123	33	26.82
1972 Census--	9 946	23 751	57	2 070	3.90	54	70	38	28 630	34	24.23
INDUSTRY 2892, EXPLOSIVES											
1977 Census--	14 063	(NA)	67	1 930	6.28	38	64	(NA)	33 342	42	25.47
1976 ASM----	13 313	(D)	66	1 871	6.18	37	63	(D)	31 389	42	25.36
1975 ASM----	12 007	(D)	68	1 876	5.64	37	65	(D)	25 415	47	19.82
1974 ASM----	10 694	(S)	72	1 868	5.07	32	63	(S)	23 872	44	17.59
1973 ASM----	10 018	(S)	70	1 939	4.63	29	67	(S)	18 296	54	13.41
1972 Census--	9 618	(S)	71	1 939	4.48	30	74	(S)	15 145	63	10.91
1971 ASM----	9 205	(S)	68	2 037	4.16	42	84	(S)	12 205	75	8.71
1970 ASM----	8 587	(S)	69	2 040	3.89	39	81	(S)	10 944	78	7.76
1969 ASM----	7 870	(S)	72	2 007	3.64	45	85	(S)	11 322	69	7.79
1968 ASM----	7 145	5 656	74	2 007	3.32	43	79	28	11 117	64	7.45
1967 Census--	6 920	5 731	73	1 987	3.26	41	76	29	11 463	60	7.84
1966 ASM----	6 928	(NA)	72	1 976	3.05	46	81	(NA)	10 682	64	7.46
1965 ASM----	6 638	(NA)	69	1 959	3.14	41	73	(NA)	12 602	52	9.25
1964 ASM----	6 570	9 222	71	1 947	3.04	41	72	43	12 570	52	9.07
1963 Census--	6 189	8 209	73	1 917	2.87	41	73	42	11 195	55	7.92
INDUSTRY 2893, PRINTING INK											
1977 Census--	14 432	(NA)	57	1 987	6.26	61	77	(NA)	36 581	39	32.17
1976 ASM----	14 300	16 922	55	2 000	6.27	56	73	19	38 066	37	34.26
1975 ASM----	12 833	16 355	58	1 698	6.45	57	72	20	34 611	37	34.61
1974 ASM----	11 454	14 568	61	1 944	5.07	56	72	20	32 181	35	26.97
1973 ASM----	10 744	14 265	62	1 983	4.57	56	75	25	24 561	43	19.89
1972 Census--	10 343	15 104	60	2 086	4.11	55	74	28	24 166	42	19.17
1971 ASM----	9 219	15 146	62	2 039	3.76	57	75	30	21 207	43	16.72
1970 ASM----	8 362	14 164	62	2 052	3.41	56	75	32	18 945	44	14.73
1969 ASM----	8 435	9 962	60	2 061	3.80	57	78	24	17 694	47	14.26
1968 ASM----	8 221	9 778	61	2 109	3.45	55	76	24	17 942	45	13.82
1967 Census--	7 628	10 082	65	2 125	3.02	56	76	26	17 175	44	12.25
1966 ASM----	7 396	(NA)	63	2 140	3.02	52	72	(NA)	17 970	41	13.24
1965 ASM----	7 279	(NA)	64	2 133	2.99	51	72	(NA)	17 473	41	12.69
1964 ASM----	7 258	9 223	63	2 240	2.89	55	75	26	16 070	45	11.28
1963 Census--	6 576	8 600	65	2 107	2.74	53	74	27	14 717	44	10.60
INDUSTRY 2895, CARBON BLACK											
1977 Census--	16 756	(NA)	78	2 297	7.09	64	73	(NA)	67 031	24	37.22
1976 ASM----	16 000	129 833	79	2 315	6.61	63	73	84	55 541	28	30.29
1975 ASM----	14 217	130 000	78	2 222	6.05	66	77	97	43 434	32	24.97
1974 ASM----	12 137	96 655	79	2 217	5.31	61	71	84	48 620	24	27.64
1973 ASM----	11 379	92 344	79	2 173	5.08	44	58	111	46 068	24	26.72
1972 Census--	11 000	91 413	79	2 217	4.72	39	53	116	47 448	23	26.98
1971 ASM----	9 937	87 593	81	2 000	4.48	38	52	125	43 093	23	26.51
1970 ASM----	9 393	74 090	75	2 160	4.20	39	53	113	39 030	24	23.85
1969 ASM----	9 137	66 517	79	2 260	3.90	37	50	95	43 275	21	24.13
1968 ASM----	8 500	68 928	82	2 173	3.70	36	48	96	44 964	18	25.18
1967 Census--	8 142	60 785	82	2 260	3.46	40	53	101	36 000	22	19.38
1966 ASM----	8 103	(NA)	79	2 173	3.64	40	52	(NA)	39 000	20	22.62
1965 ASM----	7 571	(NA)	82	2 173	3.30	38	50	(NA)	37 678	20	21.10
1964 ASM----	7 500	47 607	78	2 227	3.10	37	50	81	36 071	20	20.61
1963 Census--	6 900	44 066	76	2 130	3.04	37	51	88	30 600	22	18.73

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2899, CHEMICAL PREPARATIONS, N.E.C.										
1977 Census--	13 687	(NA)	58	1 999	5.83	53	65	(NA)	52 140	26	44.40
1976 ASM----	12 598	36 218	60	1 922	5.40	54	67	37	44 666	28	38.64
1975 ASM----	11 746	31 446	59	1 922	4.96	53	67	36	40 610	28	35.58
1974 ASM----	10 742	25 763	60	1 947	4.59	54	67	31	39 506	27	33.69
1973 ASM----	10 670	26 030	61	2 027	4.12	52	68	37	32 726	32	26.15
1972 Census--	9 595	24 778	60	1 942	4.00	49	65	41	30 315	31	25.61

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 1c. Historical Statistics for Industry 2892, Explosives: 1977 and 1972

(For explanation of terms, see appendix A)

Year	Companies (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 2892, EXPLOSIVES (TOTAL)[1]															
1977 Census..	62	97	53	12.3	173.2	8.4	16.1	101.4	[2]410.7	[3]258.3	[4]666.3	[5]26.1	(NA)	[5]59.8	[7]86	[7]95
1972 Census..	55	92	50	18.6	178.9	13.3	25.8	115.6	[2]281.7	[3]121.3	[4]402.7	[5] [6]30.1	(S)	[5]38.1	[7]92	[7]95
	INDUSTRY 2892, EXPLOSIVES (PRIVATELY-OWNED AND OPERATED ESTABLISHMENTS)															
1977 Census..	58	92	48	7.9	109.0	5.7	11.0	68.8	278.4	244.9	520.6	26.1	(NA)	59.8	86	95
1972 Census..	(NA)	85	43	7.6	70.0	5.7	10.7	46.7	147.1	103.2	249.6	30.1	(S)	38.1	92	95

(NA) Not available. (S) Withheld because estimate did not meet publication standards.

[1]Explosives (total) includes, in addition to privately-owned establishments, government-owned, contractor-operated plants. See industry 2892, privately owned and operated establishments, below.

[2]Data include value added for government-owned, contractor-operated plants which was estimated based upon averages reported for commercial establishments in prior years.

[3]Data exclude government-owned materials furnished to government-owned, contractor-operated plants and include fuel and electricity purchased by or for these establishments.

[4]Data include a calculated value of shipments for government-owned, contractor-operated plants comprised of adjusted value added (estimated as described in footnote 2) plus the cost of fuels and electric energy.

[5]Total excludes expenditures, inventories, and fixed assets of government-owned, contractor-operated plants.

[6]Includes expenditures for plants under construction but not in operation.

[7]Government-owned, privately-operated establishments did not enter into calculation of "primary product specialization ratio" or "coverage ratio," as all dollar receipts for these establishments were included in "miscellaneous receipts."

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2891, ADHESIVES AND SEALANTS														
United States	-	**572**	**212**	**16.6**	**230.2**	**10.2**	**20.5**	**113.2**	**747.8**	**1 067.1**	**1 808.1**	**38.9**	**14.9**	**426.6**
New England Division:														
Massachusetts	-	36	14	1.0	14.3	0.6	1.2	6.2	37.6	49.0	86.6	3.4	1.5	31.6
Connecticut	-	10	4	0.2	4.1	0.2	0.3	2.5	26.5	20.2	45.2	(D)	0.5	14.8
Middle Atlantic Division:														
New York	-	49	15	1.2	16.6	0.7	1.4	7.3	54.8	60.6	114.4	2.4	1.2	27.5
New Jersey	-	45	20	1.4	19.9	0.9	1.9	10.8	69.3	89.9	158.7	2.9	1.1	25.9
Pennsylvania	-	27	10	0.7	9.5	0.4	0.8	4.6	30.2	37.4	67.6	2.5	0.6	18.3
East North Central Division:														
Ohio	-	42	22	2.2	30.8	1.3	2.5	14.1	82.9	110.8	191.7	3.5	1.9	53.3
Illinois	-	54	25	1.7	24.6	1.0	1.9	11.4	69.8	121.6	193.0	4.1	1.6	43.6
Michigan	-	28	11	1.0	13.9	0.6	1.3	7.3	40.3	55.6	94.7	1.7	0.7	18.7
Wisconsin	-	14	4	0.5	6.9	0.3	0.7	3.6	14.4	24.4	39.7	0.3	0.3	6.6
West North Central Division:														
Missouri	-	19	10	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	8	3	0.5	5.5	0.4	0.7	3.7	21.2	16.6	37.8	(D)	0.4	8.1
North Carolina	-	11	4	0.4	6.0	0.3	0.6	3.0	18.0	36.1	53.8	0.6	(NA)	(D)
Georgia	-	20	9	0.6	6.8	0.4	0.8	3.5	31.0	55.6	87.5	2.3	0.5	17.3
East South Central Division:														
Kentucky	-	6	3	0.4	5.5	0.3	0.7	3.8	47.1	29.8	76.2	(D)	(NA)	(D)
Tennessee	-	10	3	0.2	1.8	0.1	0.3	1.0	8.7	17.4	26.0	0.3	(NA)	(D)
West South Central Division:														
Texas	-	32	9	0.5	7.1	0.3	0.6	3.0	24.6	28.6	53.0	1.3	(NA)	(D)
Pacific Division:														
Oregon	-	11	5	0.3	4.4	0.2	0.3	1.9	16.0	66.0	81.6	0.9	(NA)	(D)
California	-	78	27	1.8	25.4	1.1	2.2	12.2	80.1	115.8	195.3	2.8	(NA)	(D)
INDUSTRY 2892, EXPLOSIVES														
United States	-	**97**	**53**	**12.3**	**173.2**	**8.4**	**16.1**	**101.4**	**410.7**	**258.3**	**666.3**	**26.1**	**18.6**	**281.7**
New England Division:														
Connecticut	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	10	7	1.5	17.2	1.1	1.9	11.2	36.4	21.7	57.8	2.6	(NA)	(D)
East North Central Division:														
Ohio	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Missouri	-	6	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	3	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	7	5	0.3	3.1	0.2	0.4	1.7	15.8	10.2	25.0	(D)	(NA)	(D)
Mountain Division:														
Arizona	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	9	5	0.7	9.0	0.4	1.0	4.9	19.8	14.4	33.5	(D)	0.5	9.8
INDUSTRY 2893, PRINTING INK														
United States	E1	**446**	**157**	**10.1**	**145.1**	**5.8**	**11.4**	**71.6**	**367.8**	**583.5**	**944.9**	**17.0**	**9.6**	**232.0**
New England Division:														
Massachusetts	E3	18	2	0.2	2.6	0.1	0.2	1.2	7.8	8.9	16.6	0.3	0.2	3.8
Middle Atlantic Division:														
New York	-	28	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	42	22	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	20	8	0.5	8.3	0.3	0.6	3.8	14.4	22.5	37.2	0.5	(NA)	(D)
East North Central Division:														
Ohio	-	31	15	1.0	13.1	0.6	1.1	7.3	32.0	44.8	76.8	1.9	1.1	24.2
Indiana	-	7	6	0.2	2.8	0.1	0.3	1.6	9.9	19.2	28.8	(D)	(NA)	(NA)
Illinois	E1	52	23	1.9	29.1	1.1	2.1	13.6	69.0	139.6	206.8	2.1	(NA)	(D)
Michigan	E1	12	5	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	4.6
Wisconsin	E1	13	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	7.4

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2893, PRINTING INK—Con.														
West North Central Division:														
Minnesota	-	10	7	0.3	4.1	0.2	0.3	2.2	11.5	15.6	26.9	0.6	0.2	3.7
Missouri	-	13	9	0.4	4.8	0.2	0.4	2.3	12.1	17.8	29.6	0.4	0.3	7.7
South Atlantic Division:														
District of Columbia	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	17	3	0.2	3.0	0.1	0.3	1.5	12.1	16.9	28.4	1.4	(NA)	(NA)
Georgia	-	16	6	0.3	3.6	0.2	0.3	1.9	11.4	16.8	27.6	0.2	0.2	5.2
West South Central Division:														
Texas	-	20	5	0.3	3.8	0.2	0.3	1.8	14.2	18.8	33.0	(D)	(NA)	(D)
Pacific Division:														
California	E1	46	21	1.0	16.0	0.6	1.2	7.7	37.8	50.0	87.2	1.2	0.9	23.0
INDUSTRY 2895, CARBON BLACK														
United States	-	**31**	**31**	**2.5**	**42.5**	**2.0**	**4.6**	**32.5**	**170.2**	**303.9**	**468.4**	**22.7**	**2.9**	**137.6**
West South Central Division:														
Louisiana	-	8	8	0.9	15.2	0.8	1.8	12.5	68.3	100.4	166.6	8.1	1.1	44.9
Texas	-	12	12	1.1	18.2	0.9	1.9	13.6	68.4	131.2	197.5	10.2	(NA)	(D)
INDUSTRY 2899, CHEMICAL PREPARATIONS, N.E.C.														
United States	-	**1 639**	**384**	**35.3**	**483.4**	**20.7**	**41.5**	**242.0**	**1 841.7**	**2 122.5**	**3 950.6**	**182.6**	**37.1**	**1 124.7**
New England Division:														
Massachusetts	-	46	9	1.5	24.1	0.9	1.8	12.6	66.9	78.4	144.5	6.3	1.3	35.4
Rhode Island	-	15	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	29	12	0.7	10.6	0.3	0.7	2.7	37.4	29.4	66.4	2.3	0.8	22.7
Middle Atlantic Division:														
New York	-	119	23	1.8	26.0	1.2	2.3	14.0	82.4	134.4	216.0	7.5	2.2	63.7
New Jersey	-	122	38	3.8	49.4	2.1	4.3	24.7	143.9	165.8	304.7	21.7	3.9	116.4
Pennsylvania	-	96	24	1.8	21.1	1.1	2.0	12.3	78.5	86.9	167.7	6.5	2.2	55.9
East North Central Division:														
Ohio	-	123	33	3.9	56.3	2.4	4.6	29.4	206.4	221.6	427.1	18.1	4.2	112.8
Indiana	-	34	8	0.6	6.6	0.3	0.6	3.6	25.6	49.6	75.2	1.9	(NA)	(D)
Illinois	-	130	38	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.9	114.1
Michigan	-	70	25	2.4	35.4	1.5	3.0	19.1	114.3	157.9	273.9	12.7	(NA)	(D)
Wisconsin	-	37	10	0.7	9.3	0.3	0.6	3.3	27.5	36.6	63.5	1.4	(NA)	(D)
West North Central Division:														
Iowa	-	17	5	0.5	7.1	0.3	0.6	3.6	25.1	31.4	55.1	(D)	(NA)	(D)
Missouri	-	35	8	1.1	16.9	0.3	0.6	3.7	78.0	38.6	119.3	3.3	1.2	35.5
Kansas	-	13	8	0.9	11.0	0.6	1.4	7.7	37.4	36.0	73.2	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	20	7	0.7	8.6	0.4	0.7	4.2	15.0	27.7	42.8	1.4	0.7	11.2
Virginia	-	14	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	31	6	0.9	9.8	0.6	1.1	4.1	33.3	30.6	63.3	1.4	0.8	14.6
Georgia	-	36	10	0.7	8.3	0.3	0.6	3.5	50.7	51.7	99.7	2.7	0.7	26.7
Florida	E2	45	5	0.4	4.4	0.2	0.5	2.2	12.1	26.8	38.2	(D)	0.2	4.3
East South Central Division:														
Tennessee	-	24	8	0.7	8.8	0.5	0.9	4.7	26.3	63.7	89.8	2.4	(NA)	(D)
Alabama	-	13	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Louisiana	-	28	7	0.7	10.4	0.4	1.2	4.5	55.0	73.6	128.3	5.0	0.4	6.9
Oklahoma	E1	32	2	0.2	3.1	0.1	0.2	1.3	16.4	15.7	31.6	1.1	(NA)	(NA)
Texas	-	130	38	3.3	43.7	2.0	4.0	21.5	206.6	194.1	397.8	19.0	(NA)	(D)
Mountain Division:														
New Mexico	-	7	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	E2	15	4	0.3	3.4	0.2	0.4	2.4	8.9	5.5	14.6	(D)	(NA)	(D)
Pacific Division:														
California	-	205	32	2.6	35.1	1.6	3.0	18.9	130.1	131.2	259.7	11.1	3.7	112.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Adhesives and sealants (SIC 2891)	Explosives (SIC 2892)	Printing ink (SIC 2893)	Carbon black (SIC 2895)	Chemical preparations, n.e.c. (SIC 2899)
Primary product specialization ratio[1]	percent	89	86	97	[4]95	87
Coverage ratio[2]	do	81	95	97	[4]95	77
All establishments	number	572	97	446	31	1 639
With 1 to 19 employees	do	360	44	289	-	1 255
With 20 to 99 employees	do	173	27	139	21	309
With 100 employees or more	do	39	26	18	10	75
All employees, average for year	1,000	16.6	12.3	10.1	2.5	35.3
Payroll for year, all employees	mil. dol.	230.2	173.2	145.1	42.5	483.4
Production workers:						
Average for year	1,000	10.2	8.4	5.8	2.0	20.7
March	do	9.9	8.2	5.7	2.0	20.3
May	do	10.2	8.4	5.7	2.0	20.4
August	do	10.3	8.5	5.8	2.1	21.2
November	do	10.3	8.3	5.8	1.9	20.7
Hours	millions	20.5	16.1	11.4	4.6	41.5
January to March	do	4.9	3.9	2.8	1.1	10.2
April to June	do	5.2	4.1	2.8	1.1	10.3
July to September	do	5.2	4.1	2.8	1.2	10.5
October to December	do	5.2	4.0	2.9	1.1	10.5
Wages	mil. dol.	113.2	101.4	71.6	32.5	242.0
Cost of materials, etc.	do	1 067.1	258.3	583.5	303.9	2 122.5
Materials, parts, containers, etc., consumed	do	967.2	210.3	541.6	250.9	1 875.6
Resales	do	66.6	(D)	31.5	(D)	120.2
Fuels consumed	do	14.5	22.7	4.1	36.0	85.2
Purchased electric energy	do	11.5	10.2	5.8	13.9	29.5
Contract work	do	7.3	(D)	0.5	(D)	11.9
Value of shipments, including resales	do	1 808.1	566.3	944.9	468.4	3 950.6
Value of resales	do	88.5	(D)	42.9	(D)	152.1
Value added by manufacture	do	747.8	410.7	367.8	170.2	1 841.7
Manufacturers' inventories:						
Beginning of year	do	187.0	54.8	101.7	27.3	431.7
Finished products	do	79.5	19.7	38.5	13.3	216.7
Work in process	do	16.6	9.8	3.8	-	44.3
Materials, supplies, fuel, etc.	do	90.9	25.3	59.3	14.1	170.7
End of year	do	201.8	59.8	116.7	32.7	456.5
Finished products	do	86.4	20.2	43.4	18.9	223.5
Work in process	do	16.6	12.0	5.4	-	51.0
Materials, supplies, fuel, etc.	do	98.8	27.6	67.9	13.8	182.0
Capital expenditures for plant and equipment	do	41.2	26.8	18.3	22.7	187.9
New capital expenditures	do	38.9	26.1	17.0	22.7	182.6
New buildings and other structures	do	9.4	7.3	4.3	1.5	49.8
New machinery and equipment	do	29.5	18.8	12.8	21.2	132.9
Used capital expenditures	do	2.2	0.7	1.3	-	5.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Adhesives and sealants (SIC 2891)		Explosives (SIC 2892)		Printing ink (SIC 2893)		Carbon black (SIC 2895)		Chemical preparations, n.e.c. (SIC 2899)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	(1.8)	23	(1.3)	51	(3.0)	(A)	1.6	1	5.5	7
Response coverage ratio[2] (percent)	59.0	(X)	76.0	(X)	49.8	(X)	38.5	(X)	66.7	(X)
Machinery	6.5	13	(4.3)	24	6.3	4	16.2	1	20.7	10
Response coverage ratio[2] (percent)	50.4	(X)	74.0	(X)	54.5	(X)	48.5	(X)	62.9	(X)
Cost of purchased communication services	(5.8)	19	(1.3)	69	6.9	4	0.4	1	7.3	13
Response coverage ratio[2] (percent)	64.5	(X)	99.0	(X)	44.6	(X)	70.4	(X)	57.2	(X)
Rental payments	10.1	11	2.3	10	5.6	6	0.2	1	18.7	6
Buildings and other structures	(5.3)	16	(1.1)	25	3.2	9	-	1	9.7	10
Machinery and equipment	(4.8)	17	1.3	7	2.5	7	0.2	1	8.9	5
Supplemental labor costs	41.5	3	43.6	3	24.5	4	9.4	1	89.4	2
Legal costs	18.7	3	14.5	12	10.8	2	2.6	1	37.5	2
Voluntary costs	22.8	3	29.1	2	13.7	6	6.8	1	51.8	3
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	137.7	6	(64.7)	18	64.5	6	58.6	1	318.6	3
New capital expenditures	(9.4)	17	7.0	11	3.4	7	1.5	1	45.1	12
Used capital expenditures	(0.3)	(A)	0.1	1	(2.3)	75	-	1	(1.5)	38
Retirements	2.8	4	4.0	5	4.1	2	0.4	1	6.2	7
End of year	144.6	6	(68.0)	18	66.1	6	59.8	1	359.0	4
Machinery and equipment:										
Beginning of year	239.3	3	102.1	6	105.6	3	249.7	1	830.4	2
New capital expenditures	29.0	8	18.1	12	11.7	5	21.2	1	127.4	5
Automobiles, trucks, etc., for highway use[3]	(1.1)	(A)	(2.9)	(A)	(1.2)	(A)	(0.1)	(A)	(7.4)	(A)
Computers and peripheral data processing equipment[3]	(0.4)	(A)	-	(X)	(0.1)	(A)	(0.2)	(A)	(1.1)	(A)
All other[3]	(22.4)	89	(11.9)	(A)	(8.3)	(A)	(20.9)	(A)	(87.7)	23
New machinery and equipment, n.s.k.[4]	(5.1)	(A)	(3.4)	(A)	(2.2)	(A)	-	(X)	(31.2)	64
Used capital expenditures	2.1	11	0.5	1	(0.4)	28	-	(X)	2.1	8
Retirements	11.8	9	5.2	5	10.2	2	1.8	1	18.3	5
End of year	258.6	3	115.5	7	107.4	3	269.1	1	941.5	2
Total gross value of depreciable assets:										
Beginning of year	377.0	4	166.8	10	170.1	4	308.4	1	1,149.0	2
New capital expenditures	38.4	7	25.2	12	15.1	5	22.7	1	172.4	5
Used capital expenditures	(2.4)	51	0.6	1	(2.6)	65	-	1	(3.6)	17
Retirements	14.6	7	9.1	5	14.3	1	2.2	1	24.5	4
End of year	403.2	4	183.5	3	173.5	4	328.9	1	1,300.5	2
Depreciation charges during 1977	29.9	3	13.8	8	10.2	4	16.6	1	(85.3)	21
Buildings and other structures	7.2	4	5.1	8	2.5	7	2.5	1	15.0	4
Machinery and equipment	22.7	4	8.7	8	7.7	5	14.0	1	(70.3)	25

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2891, ADHESIVES AND SEALANTS												
Total	-	**572**	**16.6**	**230.2**	**10.2**	**20.5**	**113.2**	**747.8**	**1 067.1**	**1 808.1**	**38.9**	**201.8**
Establishments with an average of—												
1 to 4 employees	E6	144	0.3	3.4	0.2	0.3	1.5	10.0	16.9	27.8	2.9	3.1
5 to 9 employees	E3	103	0.7	9.1	0.4	0.9	4.3	40.6	56.1	96.8	2.2	9.5
10 to 19 employees	-	113	1.6	21.8	1.0	2.0	10.4	77.6	141.0	218.5	7.7	21.0
20 to 49 employees	-	121	3.8	53.7	2.2	4.5	24.4	159.7	299.1	456.0	7.7	42.3
50 to 99 employees	-	52	3.6	49.7	2.2	4.5	24.3	157.5	228.6	385.0	5.6	39.8
100 to 249 employees	-	32	4.6	62.4	2.9	5.7	31.6	223.9	237.5	458.0	10.5	59.6
250 to 499 employees	-	7	2.0	30.0	1.3	2.7	16.7	78.5	88.0	166.0	2.5	26.6
Covered by administrative records[2]	E0	166	0.6	8.4	0.4	0.8	3.8	22.3	33.0	55.4	1.0	5.9
INDUSTRY 2892, EXPLOSIVES												
Total	-	**97**	**12.3**	**173.2**	**8.4**	**16.1**	**101.4**	**410.7**	**258.3**	**666.3**	**26.1**	**59.8**
Establishments with an average of—												
1 to 4 employees	E4	24	(Z)	0.6	(Z)	0.1	0.4	1.6	2.2	3.9	0.5	0.3
5 to 9 employees	E2	12	0.1	1.0	0.1	0.1	0.6	4.7	5.4	10.0	0.3	0.7
10 to 19 employees	E1	8	0.1	1.4	0.1	0.1	0.9	3.5	6.8	10.2	1.2	1.2
20 to 49 employees	-	13	0.4	6.1	0.3	0.6	3.8	18.6	27.7	45.5	1.8	5.1
50 to 99 employees	-	14	0.9	9.5	0.7	1.3	6.0	26.5	34.6	61.1	2.3	7.1
100 to 249 employees	-	10	1.5	21.5	1.0	2.4	12.2	51.7	53.3	104.8	(20.0)	12.9
250 to 499 employees	-	12	(9.2)	(133.1)	(6.3)	(11.5)	(77.5)	(304.1)	(128.3)	(430.8)	(D)	(32.5)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	25	0.1	1.3	0.1	0.1	0.7	3.3	2.7	6.0	0.3	0.7
INDUSTRY 2893, PRINTING INK												
Total	-	**446**	**10.1**	**145.1**	**5.8**	**11.4**	**71.6**	**367.8**	**583.5**	**944.9**	**17.0**	**116.7**
Establishments with an average of—												
1 to 4 employees	E3	93	0.2	2.9	0.1	0.2	1.3	10.1	16.4	26.3	0.4	2.9
5 to 9 employees	E2	84	0.6	7.8	0.3	0.7	3.8	22.7	36.6	59.1	1.3	6.0
10 to 19 employees	-	112	1.5	21.3	0.9	1.7	10.0	61.5	90.9	152.1	3.5	16.5
20 to 49 employees	-	110	3.3	47.8	1.8	3.6	22.1	121.7	180.6	300.1	3.8	38.9
50 to 99 employees	-	29	1.9	28.1	1.2	2.3	14.6	72.1	110.8	181.6	5.2	24.7
100 to 249 employees	-	18	2.6	37.2	1.4	2.8	19.7	79.7	148.2	225.6	3.0	27.6
Covered by administrative records[2]	E0	77	0.3	4.0	0.2	0.3	1.9	9.0	11.7	20.6	0.3	2.6
INDUSTRY 2895, CARBON BLACK												
Total	-	**31**	**2.5**	**42.5**	**2.0**	**4.6**	**32.5**	**170.2**	**303.9**	**468.4**	**22.7**	**32.7**
Establishments with an average of—												
20 to 49 employees	-	9	0.4	6.6	0.2	0.5	4.1	26.0	56.5	81.3	4.7	6.7
50 to 99 employees	-	12	0.8	13.0	0.6	1.3	9.4	43.8	90.7	133.4	6.0	7.2
100 to 249 employees	-	10	1.4	22.9	1.2	2.7	18.9	100.3	156.7	253.7	12.0	18.7
INDUSTRY 2899, CHEMICAL PREPARATIONS, N.E.C.												
Total	-	**1 639**	**35.3**	**483.4**	**20.7**	**41.5**	**242.0**	**1 841.7**	**2 122.5**	**3 950.6**	**182.6**	**456.5**
Establishments with an average of—												
1 to 4 employees	E6	808	1.2	16.5	1.0	1.5	8.6	60.4	67.0	131.5	11.8	16.0
5 to 9 employees	E1	227	1.5	20.1	1.0	1.9	10.8	103.8	94.9	198.4	7.8	17.8
10 to 19 employees	E1	220	3.0	39.4	1.8	3.5	19.3	172.5	192.3	362.7	14.9	38.6
20 to 49 employees	-	210	6.4	82.0	3.6	7.2	36.4	317.1	345.8	665.0	19.4	76.3
50 to 99 employees	-	99	6.8	90.1	3.8	7.7	41.6	374.0	563.5	933.4	31.0	100.8
100 to 249 employees	-	55	8.4	115.0	4.9	10.3	61.5	396.2	452.6	845.3	47.3	98.8
250 to 499 employees	-	15	4.8	74.1	3.2	6.4	46.2	283.8	289.6	567.0	39.4	71.3
500 to 999 employees	-	5	3.2	46.2	1.5	2.9	17.5	133.7	116.8	247.2	11.0	37.0
Covered by administrative records[2]	E9	676	1.3	18.0	1.0	1.6	9.3	55.1	65.1	120.2	9.7	15.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2891	**Adhesives and sealants:**										
	Entire industry	572	16.6	230.2	10.2	20.5	113.2	747.8	1 067.1	1 808.1	38.9
	Establishments with 75 percent specialization or more	515	12.3	167.0	7.6	15.1	82.1	591.1	846.3	1 431.0	31.0
28913	Natural base glues and adhesives:										
	Establishments with this product class primary	32	1.1	17.1	0.8	1.7	10.6	59.2	72.8	131.6	1.7
	Establishments with 75 percent specialization or more in class	22	0.7	9.4	0.5	0.9	5.6	40.0	40.6	79.6	1.5
28914	Synthetic resin and rubber adhesives:										
	Establishments with this product class primary	252	10.4	146.1	6.1	12.4	68.1	472.4	769.5	1 237.6	25.2
	Establishments with 75 percent specialization or more in class	167	5.6	76.3	3.4	6.7	35.8	253.7	423.1	677.8	17.2
28915	Caulking compounds and sealants:										
	Establishments with this product class primary	66	3.6	47.9	2.3	4.7	25.7	171.0	155.1	323.3	7.3
	Establishments with 75 percent specialization or more in class	44	1.8	22.5	1.3	2.6	13.5	105.5	89.0	192.4	4.8
2892	**Explosives:**										
	Entire industry	97	12.3	173.2	8.4	16.1	101.4	410.7	258.3	666.3	26.1
	Establishments with 75 percent specialization or more	85	6.0	79.3	4.4	8.3	51.1	204.9	166.5	369.3	17.7
28921	Explosives, except those shipped by GOCO plants:										
	Establishments with this product class primary	60	7.8	107.1	5.6	10.8	67.7	273.6	241.0	511.9	25.7
	Establishments with 75 percent specialization or more in class	52	5.5	72.6	4.1	7.7	47.5	190.0	161.9	349.9	17.2
2893	**Printing ink:**										
	Entire industry	446	10.1	145.1	5.8	11.4	71.6	367.8	583.5	944.9	17.0
	Establishments with 75 percent specialization or more	428	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28931	Letterpress inks, black and color:										
	Establishments with this product class primary	26	0.6	8.5	0.4	0.7	4.8	25.0	44.0	68.2	1.6
	Establishments with 75 percent specialization or more in class	9	0.2	3.1	0.1	0.2	1.5	12.6	17.3	29.5	0.2
28932	Lithographic and offset inks, black and color:										
	Establishments with this product class primary	171	4.6	68.8	2.5	5.1	32.4	158.2	232.8	389.1	7.4
	Establishments with 75 percent specialization or more in class	100	2.5	37.8	1.4	2.8	17.8	81.4	108.8	189.4	3.5
28933	Gravure inks:										
	Establishments with this product class primary	41	1.5	20.8	0.9	1.8	11.6	66.2	137.3	201.6	3.9
	Establishments with 75 percent specialization or more in class	24	0.8	11.7	0.4	0.9	6.1	39.5	70.1	108.9	2.2
28934	Flexographic inks:										
	Establishments with this product class primary	62	1.4	20.1	0.8	1.6	9.9	61.0	93.6	153.3	1.7
	Establishments with 75 percent specialization or more in class	27	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28935	Printing inks, n.e.c.:										
	Establishments with this product class primary	16	0.5	7.8	0.3	0.6	3.4	21.9	27.1	48.1	1.5
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2895	**Carbon black:**										
	Entire industry	31	2.5	42.5	2.0	4.6	32.5	170.2	303.9	468.4	22.7
	Establishments with 75 percent specialization or more	31	2.5	42.5	2.0	4.6	32.5	170.2	303.9	468.4	22.7
2899	**Chemical preparations, n.e.c.:**										
	Entire industry	1 639	35.3	483.4	20.7	41.5	242.0	1 841.7	2 122.5	3 950.6	182.6
	Establishments with 75 percent specialization or more	1 519	27.1	370.6	16.2	32.3	187.5	1 425.6	1 538.2	2 958.8	145.9
28991	Salt:										
	Establishments with this product class primary	33	4.1	55.3	3.3	6.8	41.9	155.5	92.8	247.6	25.2
	Establishments with 75 percent specialization or more in class	30	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28992	Fatty acids:										
	Establishments with this product class primary	16	2.4	38.1	1.6	3.2	24.1	115.3	267.6	382.7	19.4
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28994	Gelatin, except ready-to-eat desserts:										
	Establishments with this product class primary	11	1.3	21.0	0.9	1.9	13.5	59.2	74.1	133.7	11.7
	Establishments with 75 percent specialization or more in class	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28995	Essential oils, fireworks, sizes, and other chemical preparations, n.e.c.:										
	Establishments with this product class primary	572	22.3	306.5	11.6	23.5	132.0	1 326.8	1 482.1	2 793.4	97.6
	Establishments with 75 percent specialization or more in class	495	17.7	240.2	9.2	18.5	104.0	1 037.1	1 142.0	2 174.9	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. **Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967**

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2891-	Adhesives and sealants									
	1977	1,808.1	1,525.2	190.9	92.0	89	1,873.1	1,525.2	347.9	81
	1972	928.0	782.7	98.5	46.7	89	954.3	782.7	171.6	82
	1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
2892-	Explosives									
	1977	666.3	431.4	70.7	164.2	[1]86	435.5	(D)	(D)	[2]95
	1972	408.6	225.3	20.6	162.8	[1]92	237.6	225.3	12.3	[1]95
	1967	647.0	229.4	16.7	400.9	93	248.5	229.4	19.1	93
2893-	Printing ink									
	1977	944.9	879.3	22.6	43.0	97	904.0	879.3	24.7	97
	1972	508.4	460.7	24.9	22.7	95	498.0	460.7	37.3	93
	1967	375.6	324.4	25.0	26.2	95	342.6	324.4	18.2	95
2895-	Carbon black									
	1977	468.4	(D)	-	(D)	[2]95	466.2	(D)	(D)	[2]95
	1972	227.0	(D)	-	(D)	[2]95	227.1	(D)	(D)	[2]95
	1967	167.8	167.2	-	.5	100	168.0	(D)	(D)	(NA)
2899-	Chemical preparations, n.e.c									
	1977	3,950.6	3,270.6	475.7	204.3	87	4,243.8	3,270.6	973.2	77
	1972	2,202.3	1,675.0	321.6	205.7	84	2,228.2	1,675.0	553.2	75
	1967	1,381.6	1,054.2	224.6	102.7	82	1,431.6	1,054.2	377.4	74

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified.

[1]Government-owned, privately-operated establishments did not enter into calculation of "primary product specialization ratio" or "coverage ratio," as all dollar receipts for these establishments were included in "miscellaneous receipts."

[2]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Adhesives and sealants (SIC 2891)	Explosives (SIC 2892)	Printing ink (SIC 2893)	Carbon black (SIC 2895)	Chemical preparations, n.e.c. (SIC 2899)	Other industries
	Total	(X)	1,808.1	666.3	944.9	468.4	3,950.6	(X)
	Primary products	(X)	1,525.2	431.4	879.3		3,270.6	(X)
	Secondary products	(X)	190.9	70.7	22.6	468.4	475.7	(X)
	Miscellaneous receipts	(X)	92.0	164.2	43.0		204.3	(X)
2891-	Adhesives and sealants	1,873.1	1,525.2	(D)	(D)	-	(D)	315.7
28913	Natural base glues and adhesives	166.4	152.9	-	-	-	(D)	(D)
28914	Synthetic resin and rubber adhesives	1,221.8	958.7	(D)	(D)	-	(D)	234.5
28915	Caulking compounds and sealants	364.4	303.7	-	-	-	(D)	(D)
28910	Adhesives and sealants, n.s.k.	120.5	109.9	-	-	-	2.2	8.4
2892-	Explosives	435.5	-	(D)	-	-	-	(D)
28921	Explosives, except those shipped by government-owned, contractor-operated plants	426.1	-	(D)	-	-	-	(D)
28920	Explosives, n.s.k.	9.4	-	(D)	-	-	-	(D)
2893-	Printing ink	904.0	-	-	879.3	-	(D)	(D)
28931	Letterpress ink, black and color	105.9	-	-	(D)	-	-	(D)
28932	Lithographic and offset ink, black and color	303.2	-	-	(D)	-	(D)	(D)
28933	Gravure ink	190.7	-	-	(D)	-	-	(D)
28934	Flexographic ink	157.1	-	-	(D)	-	-	(D)
28935	Printing ink, n.e.c.	60.6	-	-	47.5	-	-	13.1
28930	Printing ink, n.s.k.	86.5	-	-	84.9	-	.5	1.1
28950	Carbon black, channel and furnace process only	466.2	-	-	-	(D)	-	(D)
2899-	Chemical preparations, n.e.c.	4,243.8	21.6	(D)	(D)	-	3,270.6	948.2
28991	Salt	246.2	-	-	-	-	234.1	12.1
28992	Fatty acids	353.2	-	-	-	-	245.6	107.6
28994	Gelatin, except ready-to-eat desserts	175.3	(D)	-	-	-	111.8	(D)
28995	Essential oils, fireworks, sizes, and other chemical preparations, n.e.c.	3,109.0	12.9	(D)	(D)	-	2,335.7	(D)
28990	Chemical preparations, n.e.c., n.s.k.	360.1	(D)	(D)	.9	-	343.3	15.1
	Other shipments by 4-digit product group:							
1476-	Rock salt	(X)	-	-	-	-	(D)	(X)
2046-	Wet corn milling products	(X)	(D)	-	-	-	-	(X)
2077-	Animal and marine fats and oils	(X)	-	-	-	-	(D)	(X)
2087-	Flavoring extracts and sirups, n.e.c.	(X)	-	-	-	-	(D)	(X)
2795-	Lithographic platemaking services	(X)	-	-	(D)	-	(D)	(X)
2816-	Inorganic pigments	(X)	(D)	-	(D)	-	(D)	(X)
2819-	Industrial inorganic chemicals, n.e.c.	(X)	(D)	-	-	-	17.2	(X)
2821-	Plastics materials and resins	(X)	40.3	(D)	-	-	41.0	(X)
2834-	Pharmaceutical preparations	(X)	-	-	-	-	(D)	(X)
2841-	Soap and other detergents	(X)	-	-	-	-	28.7	(X)
2842-	Polishes and sanitation goods	(X)	(D)	-	-	-	18.6	(X)
2843-	Surface active agents	(X)	(D)	-	-	-	69.1	(X)
2844-	Toilet preparations	(X)	-	-	-	-	4.4	(X)
2851-	Paints and allied products	(X)	30.5	-	13.0	-	12.0	(X)
2861-	Gum and wood chemicals	(X)	(D)	-	-	-	(D)	(X)
2869-	Industrial organic chemicals, n.e.c.	(X)	(D)	(D)	(D)	-	99.8	(X)
2873-	Nitrogenous fertilizers	(X)	(D)	(D)	-	-	(D)	(X)
2879-	Agricultural chemicals, n.e.c.	(X)	-	-	-	-	(D)	(X)
2911-	Petroleum refining products	(X)	-	-	-	-	(D)	(X)
2952-	Asphalt felts and coatings	(X)	(D)	-	-	-	(D)	(X)
2992-	Lubricating oils and greases	(X)	(D)	-	-	-	(D)	(X)
2999-	Petroleum and coal products, n.e.c.	(X)	-	-	-	-	(D)	(X)
3069-	Fabricated rubber products, n.e.c.	(X)	(D)	-	(D)	-	-	(X)
3079-	Miscellaneous plastics products	(X)	7.7	-	-	-	3.0	(X)
3281-	Cut stone and stone products	(X)	-	-	-	-	(D)	(X)
3293-	Gaskets, packing, and sealing devices	(X)	(D)	-	-	-	(D)	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	-	-	-	-	(D)	(X)
3489-	Ordnance and accessories, n.e.c.	(X)	-	(D)	-	-	-	(X)
3499-	Fabricated metal products, n.e.c.	(X)	(D)	-	-	-	(D)	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	-	-	(D)	-	-	(X)
3569-	General industrial machinery, n.e.c.	(X)	(D)	-	-	-	(D)	(X)
3764-	Space propulsion units and parts	(X)	-	(D)	-	-	-	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	1.0	145.8	(D)	-	34.1	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(D)	(Z)	-	(D)	(X)
99980 41	Receipts for research and developmental work	(X)	-	(D)	-	-	(D)	(X)
99980 98	Other miscellaneous receipts (including receipts for repair work, etc.)	(X)	(D)	(D)	(D)	-	14.3	(X)
99980 00	Other miscellaneous receipts, n.s.k.	(X)	(D)	(D)	-	-	2.5	(X)
99989 00	Resales	(X)	88.5	(D)	42.9	(D)	152.1	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
2891-	2641 Paper coating and glazing	(D)	2899-	2812 Alkalies and chlorine	(D)
	2821 Plastics materials and resins	67.5		2816 Inorganic pigments	20.6
	2822 Synthetic rubber	(D)		2819 Industrial inorganic chemicals, n.e.c	(D)
	2843 Surface active agents	(D)		2821 Plastic materials and resins	(D)
	2851 Paints and allied products	52.5		2834 Pharmaceutical preparations	(D)
	2869 Industrial organic chemicals, n.e.c	(D)		2841 Soap and other detergents	(D)
	2952 Asphalt felts and coatings	(D)		2842 Polishes and sanitation goods	33.4
	3011 Tires and inner tubes	(D)		2843 Surface active agents	(D)
	3041 Rubber and plastics hose and belting	(D)		2844 Toilet preparations	6.4
	3069 Fabricated rubber products, n.e.c	16.0		2851 Paints and allied products	11.0
	3079 Miscellaneous plastics products	(D)		2861 Gum and wood chemicals	(D)
	3299 Nonmetallic mineral products, n.e.c	(D)		2865 Cyclic crudes and intermediates	(D)
	3442 Metal doors, sash, and trim	(D)		2869 Industrial organic chemicals, n.e.c	(D)
	3714 Motor vehicle parts and accessories	(D)		2879 Agricultural chemicals, n.e.c	(D)
	3996 Hard surface floor coverings	(D)		2999 Petroleum and coal products, n.e.c	(D)
2893-	2851 Paints and allied products	(D)		3079 Miscellaneous plastic products	(D)
				3291 Abrasive products	(D)
2899-	1476 Rock salt	(D)		3356 Nonferrous rolling and drawing, n.e.c	(D)
	2037 Frozen fruits and vegetables	12.4		3541 Machine tools, metal cutting types	(D)
	2077 Animal and marine fats and oils	(D)		3623 Welding apparatus, electric	(D)
	2086 Bottled and canned soft drinks	(D)		3842 Surgical appliances and supplies	(D)
	2099 Food preparations, n.e.c	(D)		3861 Photographic equipment and supplies	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972	
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes[2]	Product shipments[1]		Product shipments	
					Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	ADHESIVES AND SEALANTS							
2891- --	Total	.....	(NA)	(X)	(X)	1,873.1	(X)	954.3
28913 --	Natural base glues and adhesives	.....	(NA)	(X)	(X)	166.4	(X)	[3]119.5
	Animal glues:							
28913 11	Hide (dry forms)	Million lb....	7	49.1	49.0	21.2	38.7	12.3
28913 14	Bone, green and extracted (dry forms)		6	**12.0	**12.0	4.9	19.6	4.3
28913 26	Flexible, nonwarp, and liquid glue (not glue stock)		13	**65.6	**65.6	26.8	49.4	14.7
	Protein adhesives:							
28913 41	Casein adhesives		9	37.7	37.5	17.5	43.8	8.3
28913 49	Other, including blood, fish, soybean, albumen, etc.		5	(S)	(S)	5.0	(S)	3.8
	Vegetable adhesives:							
28913 51	Dextrines		24	159.1	160.4	37.4	186.6	29.8
28913 55	Starches		15	**47.7	**47.7	10.1	99.2	15.8
28913 78	Bituminous adhesives, asphaltic and coal tar		8	**16.9	*16.7	3.8		
28913 75	Other natural base glues and adhesives made from natural gums, shellac, silicates, lacquers, oleoresinous varnishes, etc., except rubber	Million lb....	13	155.3	151.5	34.6	(S)	30.7
28913 00	Natural base glues and adhesives, n.s.k.	.....	(NA)	(X)	(X)	5.1	(X)	([3])
28914 --	Synthetic resin and rubber adhesives, including all types of bonding and laminating adhesives	.....	(NA)	(X)	(X)	1,221.8	(X)	671.8
28914 11	Epoxy adhesives	Million lb....	42	*150.1	*146.7	93.0	73.8	48.2
	Phenolics and derivatives adhesives:							
28914 23	Phenolics and modified phenolics		16	*1,354.2	*1,198.9	116.8	600.6	45.9
28914 25	Resorcinol and modified resorcinol		4	(S)	(S)	12.8	(S)	7.5
28914 33	Urea and modified urea		8	(S)	(S)	53.6	(S)	44.2
	Vinyl type adhesives:							
	Polyvinyl acetate:							
28914 41	Latex type		51	**465.8	**439.3	156.5	514.3	101.9
28914 43	Solvent type		16	*110.2	*103.8	41.0	(S)	35.3
28914 45	Polyvinyl chloride and copolymers		16	40.0	40.0	25.0	105.2	14.1
28914 47	Other vinyl polymer type adhesives		15	**137.2	**138.0	50.9	108.6	32.6
28914 51	Cellulosic type adhesives, nitrocellulose and other		7	14.0	14.0	6.0	(D)	(D)
28914 53	Acrylic adhesives		21	*72.1	*70.4	47.6	(S)	19.8
28914 55	Polyester adhesives		5	29.4	29.4	23.7	(D)	(D)
28914 61	Polyamide adhesives		4	12.3	12.4	8.1	(D)	(D)
28914 65	Hot melt adhesives, including nylon, polyolefin, and other hot melts		30	159.4	160.7	114.5	81.9	27.6
28914 71	Adhesive films, all types, including pressure sensitive structural and nonstructural adhesive films		12	**49.3	**49.4	29.7	(S)	18.3
28914 48	Rubber and synthetic resin combinations	Million lb....	42	*530.5	*524.5	216.4	(S)	84.6
	Rubber cement, for sale as such:							
28914 81	Latex type	Million gal...	26	105.8	104.0	53.6	21.9	26.9
28914 83	Solvent type	Million gal...	39	123.1	123.4	99.0	65.1	66.6
28914 00	Synthetic resins and rubber adhesives, n.s.k.	.....	(NA)	(X)	(X)	73.6	(X)	[3]65.2
28915 --	Caulking compounds and sealants	Million lb....	(NA)	(X)	(X)	364.4	(X)	[4]121.2
	Natural base:							
28915 54	Caulks, modified and unmodified oil base		20	(S)	(S)	13.4	(X)	11.0
28915 55	Bituminous base (coal tar or asphalt)	Million lb....	15	(S)	(S)	14.8	(X)	5.0
	Synthetic base:							
28915 56	General performance sealants (PVAC, butyl, vinyl, acrylic, neoprene, etc.)	Million lb....	45	(S)	(S)	59.0	(X)	24.9
28915 57	Special performance sealants (epoxy, urethane, polysulfide, silicone, etc.)		33	(S)	(S)	150.9	(X)	70.2
28915 58	Preformed tapes (butyl, polybutene, polyisobutylene, etc.)	Million lb....	34	(S)	(S)	107.0	(X)	10.2
28915 00	Caulking compounds and sealants, n.s.k.	.....	(NA)	(X)	(X)	19.3	(X)	([4])
28910 00	Adhesives and sealants, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	65.1	(X)	29.2
28910 02	Adhesives and sealants, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	55.4	(X)	12.5

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes[2]	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[2]	Value[5] (million dollars)		Quantity	Value (million dollars)
	EXPLOSIVES								
2892- --	Total	.....	(NA)	(X)	(X)	435.5	(X)	(X)	237.6
28921 --	Explosives, propellants, and blasting accessories (except those shipped by government-owned, contractor-operated plants)	.....	(NA)	(X)	(X)	426.1	(X)	(X)	232.8
	Explosives:								
28921 13	Permissibles, including permissible slurries (approved by Bureau of Mines for underground coal mining)	Million lb.	5	*31.8	*31.8	12.0	(S)	(S)	([6])
28921 15	Dynamites (nonpermissible)		7	164.9	164.9	59.0	(S)	266.8	52.8
28921 17	Ammonium nitrate, fuel sensitized, except slurry		12	*698.7	*683.0	56.5	(S)	556.8	24.3
28921 19	Water gel and slurries, cap sensitive, except permissible slurries		4	199.5	200.6	63.1	(S)	164.2	20.9
28921 21	Water gel and slurries, noncap sensitive, except permissible slurries		6	65.3	65.2	15.2			
28921 27	Other industrial explosives, including black blasting powder, shaped charges, liquid oxygen explosives, nitroglycerin for sale as such, etc.		7	*51.0	*51.8	39.0	(S)	(X)	[6]23.8
28921 33	Propellants, including smokeless and black powder		4	(X)	22.2	52.5	(X)	(X)	28.0
	Blasting accessories:								
	Detonators:								
28921 43	Blasting caps, electric, delay		4	(X)	69.3	41.1	(X)	42.3	16.1
28921 45	Blasting caps, electric, except delay		5	(X)	15.3	8.4	(X)	43.2	14.0
28921 46	Fuse blasting caps	Million lb.	3	(X)	14.3	1.1	(X)	(X)	18.3
28921 69	Other blasting accessories (squibs, ignitors, detonating primers, safety fuse, detonating cord, other nonelectric blasting caps, etc.)	.....	13	(X)	(X)	45.9			
28921 71	Other explosives, including military detonators, jet starters, fuse and explosive assemblies, etc.	.....	13	(X)	(X)	30.9	(X)	(X)	17.9
28921 00	Explosives (except those shipped by government-owned, contractor-operated plants), n.s.k.	.....	(NA)	(X)	(X)	1.4	(X)	(X)	16.7
28920 00	Explosives, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	3.4	(X)	(X)	2.9
28920 02	Explosives, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	6.0	(X)	(X)	1.8
	PRINTING INK								
2893- --	Total	.....	(NA)	(X)	(X)	904.0	(X)	(X)	498.0
28931 --	Letterpress ink (black and color)	.....	(NA)	(X)	(X)	105.9	(X)	(X)	109.8
28931 05	News ink	Million lb.	14	289.3	283.5	56.4	(S)	(S)	46.6
28931 06	Publication ink		9	17.4	16.9	10.9	(S)	(S)	20.6
28931 15	Packaging ink		27	21.4	21.4	23.7	(S)	34.6	27.5
28931 19	Other letterpress ink	Million lb.	11	4.1	4.2	7.9	(S)	10.9	15.0
28931 00	Letterpress ink, n.s.k.	.....	(NA)	(X)	(X)	7.0	(X)	(X)	-
28932 --	Lithographic and offset ink (black and color)	.....	(NA)	(X)	(X)	303.2	(X)	(S)	151.8
28932 31	News ink	Million lb.	23	157.5	141.9	60.1	(S)	(S)	26.3
28932 32	Publication ink		38	60.3	60.1	83.3	(S)	54.1	54.3
28932 35	Packaging ink		34	*30.9	*30.9	59.3	(S)	20.5	29.8
28932 39	Other lithographic and offset ink	Million lb.	40	32.4	32.3	65.0	(S)	26.3	41.4
28932 00	Lithographic and offset ink, n.s.k.	.....	(NA)	(X)	(X)	35.5	(X)	(X)	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of Shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes[2]	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[2]	Value (million dollars)		Quantity	Value (million dollars)
	PRINTING INK--Con.								
28933 --	Gravure ink	...	(NA)	(X)	(X)	190.7	(X)	(X)	82.5
28933 43	Packaging ink	Million lb.	16	81.6	76.7	79.5	(S)	62.4	36.3
28933 45	Publication ink	Million lb.	8	271.3	213.7	96.9	(S)	152.9	33.3
28933 49	Other gravure ink	Million lb.	6	13.5	14.5	11.7	(S)	36.5	12.9
28933 00	Gravure ink, n.s.k.	...	(NA)	(X)	(X)	2.6	(X)	(X)	-
28934 --	Flexographic ink	...	(NA)	(X)	(X)	157.1	(X)	(X)	73.4
28934 81	Packaging ink	Million lb.	35	114.9	121.8	127.4	(S)	100.7	73.4
28934 84	Other flexographic ink	Million lb.	9	23.5	24.8	27.3			
28934 00	Flexographic ink, n.s.k.	...	(NA)	(X)	(X)	2.4	(X)	(X)	-
28935 --	Printing ink, n.e.c.	...	(NA)	(X)	(X)	60.6	(X)	(X)	35.2
28935 71	Textile printing ink	Million lb.	5	26.6	21.7	21.7	(S)	26.8	16.8
28935 85	Screen printing ink	Million lb.	10	*18.4	*18.6	20.3	(S)	(S)	9.3
28935 98	Other printing ink, including stencil ink	Million lb.	17	(S)	(S)	18.3	(S)	18.8	9.1
28935 00	Printing ink, n.e.c., n.s.k.	...	(NA)	(X)	(X)	.3	(X)	(X)	-
28930 00	Printing ink, n.s.k., typically for establishments with 5 employees or more (see note)	...	(NA)	(X)	(X)	65.9	(X)	(X)	34.7
28930 02	Printing ink, n.s.k., typically for establishments with less than 5 employees (see note)	...	(NA)	(X)	(X)	20.6	(X)	(X)	10.7
	CARBON BLACK								
2895- --	Total	Million lb.	8	3,571.2	3,565.0	466.2	3,209.6	3,191.6	227.1
28950 --	Carbon black (channel and furnace process only):								
28950 11	Carbon black (channel and furnace process only)[8]	Million lb.	8	3,571.2	3,565.0	466.2	3,209.6	3,191.6	227.1
	CHEMICAL PREPARATIONS, N.E.C.								
2899- --	Total	...	(NA)	(X)	(X)	4,243.8	(X)	(X)	2,228.2
28991 --	Evaporated salt:								
28991 11	Evaporated salt (bulk, pressed blocks, and packaged)[9]	Mil. s. tons	15	5.6	5.6	246.2	5.9	5.9	133.9
28992 --	Fatty acids (produced for sale as such, from own or purchased materials)	...	(NA)	(X)	(X)	353.2	(X)	(X)	155.3
	Saturated acids:								
28992 11	Stearic acid (40 to 50 percent stearic content)	Million lb.	4	88.8	86.9	28.5	105.3	104.6	17.3
	Hydrogenated animal and vegetable acids:								
28992 23	Hydrogenated fatty acids having a maximum titer of 60°C and a minimum I.V. of 5		7	229.6	225.6	56.4			
28992 25	Hydrogenated fatty acids having a minimum titer of 57°C and a maximum I.V. under 5		5	146.9	147.4	52.4	268.9	267.9	40.9
28992 27	High palmitic (over 60 percent palmitic--I.V. maximum 12)		2	9.2	9.4	3.2			
28992 31	Hydrogenated fish and marine mammal fatty acids		1						
28992 53	Coconut-type acids, I.V. 5 and over, including palm kernel and babassu, and hydrogenated coconut acid		8	64.1	64.0	23.0	48.3	48.3	7.5
28992 55	Fractionated short-chain fatty acids, I.V. below 5, such as caprylic, capric, lauric, and myristic		6	80.1	78.5	29.6	36.6	30.0	6.8
	Unsaturated acids:								
28992 61	Oleic acid, including white oleic and red oil		6	81.3	76.3	28.9	(S)	77.4	14.6
28992 83	Other unsaturated fatty acids, including animal fatty acids other than oleic (I.V. 36 to 80), vegetable or marine (I.V. maximum 115), and other unsaturated fatty acids (I.V. 116 and over)	Million lb.	6	124.3	124.4	42.0	104.5	104.8	16.7

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes[2]	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[2]	Value (million dollars)		Quantity	Value (million dollars)
	CHEMICAL PREPARATIONS, N.E.C.--Con.								
	Fatty acids (produced for sale as such, from own or purchased materials)--Con.								
	Tall oil fatty acids:								
28992 92	Tall oil fatty acids containing less than 2 percent rosin acids and more than 95 percent fatty acids	Million lb.	9	272.5	252.4	58.3	210.7	207.8	19.7
28992 94	Tall oil fatty acids containing 2 percent rosin acids or more	Million lb.	5	138.7	135.6	28.8	234.9	230.6	21.7
28992 00	Fatty acids, n.s.k.		(NA)	(X)	(X)	2.1	(X)	(X)	10.1
28994 --	Gelatin, except ready-to-eat desserts		(NA)	(X)	(X)	175.3	(X)	(X)	68.2
28994 11	Food grade, excluding pharmaceutical and photographic	Million lb.	9	32.0	32.5	63.8	38.6	38.6	31.0
28994 31	Pharmaceutical grade, except unfilled capsules		8	(S)	(S)	30.4	(S)	(S)	16.6
28994 51	Photographic grade		5	(10)	(10)	(10)	(D)	(D)	(D)
28994 71	Technical (inedible) grade		4	1.4	1.6	2.4	(D)	(D)	(D)
28994 98	Other gelatin products, except ready-to-eat desserts, including unfilled capsules and gelatin sheets for theatrical use	Million lb.	6	10(S)	10(S)	1077.9	(D)	(D)	(D)
28994 00	Gelatin, except ready-to-eat desserts, n.s.k.		(NA)	(X)	(X)	.8	(X)	(X)	(D)
28995 --	Essential oils, fireworks and pyrotechnics, sizes, and chemical preparations, n.e.c.		(NA)	(X)	(X)	3,109.0	(X)	(X)	1,641.0
	Essential oils, unblended (natural):								
	Citrus oils:								
28995 11	Orange	Million lb.	8	**66.2	**66.2	21.6	(S)	(S)	10.0
28995 12	Lemon		3	(11)	(11)	(11)	7.4	7.4	32.3
28995 13	Other		-	-	-	-	(S)	(S)	5.9
28995 15	Peppermint oils derived from mentha piperita		4	3.3	2.7	43.4	3.7	3.3	15.8
28995 14	Spearmint oil		3	1.8	1.5	21.3			
28995 18	Other natural essential oils, including cedar wood, clove, and nutmeg oils		12	11(S)	11(S)	1156.9	(S)	(S)	21.3
28995 29	Fireworks and pyrotechnics, including flares, jet fuel igniters, railroad torpedoes, toy pistol caps, etc.		18	(S)	(S)	45.2	(S)	(S)	39.6
	Chemical preparations, n.e.c.:								
28995 31	Rubber processing preparations, including red lead and 2-mercaptoimidazoline rubber accelerator composition	Million lb.	6	25.6	25.4	39.3	(12)	(12)	(12)
	Automotive chemicals:								
	Antifreeze preparations:								
28995 35	Permanent type[13]	Million gal.	25	147.1	132.5	282.1	(S)	(S)	123.3
28995 36	Other	Million gal.	8	(S)	(S)	15.7	(S)	(S)	3.9
28995 37	Other automotive chemicals, including battery acid, deicing fluid, carbon removing solvents, etc.		58	(X)	(X)	122.2	(X)	(X)	89.5
28995 39	Concrete curing and floor hardening materials	Million lb.	18	253.7	231.8	77.4	(S)	(S)	46.6
28995 41	Drilling mud materials, mud thinners, thickeners, and purifiers	Million lb.	15	*345.8	*349.5	123.2	(S)	(S)	61.2
28995 49	Foundry supplies, chemical, including binders, core oils, core wash, etc.		24	(X)	(X)	153.5	(X)	(X)	43.3
28995 53	Household tints and dyes	Million lb.	7	*5.8	*5.6	11.6	(14)	(14)	(14)
28995 55	Insulation products (heat, electrical, and other)		6	(X)	(X)	10.8	(X)	(X)	8.3
28995 59	Metal-treating compounds (non-oil base) for nitriding, pickling, drawing, and cutting		38	(X)	(X)	169.7	(X)	(X)	68.8
28995 61	Oil-treating compounds (non-oil-base)		10	(X)	(X)	41.3	(X)	(X)	50.4

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes[2]	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[2]	Value (million dollars)		Quantity	Value (million dollars)
	CHEMICAL PREPARATIONS, N.E.C.--Con.								
	Essential oils, fireworks and pyrotechnics, sizes, and chemical preparations, n.e.c.--Con.								
	Chemical preparations, n.e.c.--Con.								
	Sizes:								
28995 63	Rosin sizes	Million lb.	6	488.3	511.8	113.3	766.9	741.6	96.1
28995 65	Dextrin sizes		2						
28995 67	Other sizes	Million lb.	2						
28995 72	Inks (writing and stamp pad ink, including indelible ink and marking fluid, but excluding drawing inks)	Million gal.	21	(S)	(S)	16.1	(S)	(S)	17.4
	Water-treating compounds:								
28995 73	Swimming pool chemical preparations		20	(X)	(X)	77.1	(X)	(X)	14.3
28995 77	Boiler compounds	Million lb.	38	362.2	360.5	218.0	(X)	311.1	109.6
28995 79	Other water softening compounds	Million lb.	28	349.1	352.2	200.9	(S)	228.7	73.4
28995 81	Waterproofing compounds (electrical, leather, masonry, textile, etc.)		24	(X)	(X)	68.9	(X)	(S)	44.4
28995 83	Embalming chemicals	Million lb.	8	(S)	(S)	8.7	(X)	(X)	3.8
28995 87	Vitreous enamel (frit)		9	207.8	206.1	67.2	235.9	230.6	45.6
28995 91	Plating compounds	Million lb.	21	(S)	(S)	219.8	(S)	(S)	101.5
28995 93	Lighter fluids (cigarette, charcoal, etc.)	Gallons	9	(S)	(S)	26.4	(S)	(S)	25.4
28995 95	Waxes (animal, vegetable, mineral, and synthetic, including blends), excluding pure petroleum waxes		13	(X)	(X)	27.4	(X)	(X)	10.5
28995 98	Other industrial chemical specialties, including fluxes and plastic wood preparations.		161	(X)	(X)	682.2	(X)	(X) [12] [14]404.7	
28995 00	Essential oils, fireworks and pyrotechnics, sizes, and chemical preparations, n.e.c., n.s.k.		(NA)	(X)	(X)	147.8	(X)	(X)	74.1
28990 00	Chemical preparations, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	(X)	239.9	(X)	(X)	132.5
28990 02	Chemical preparations, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	(X)	120.2	(X)	(X)	97.3

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1] Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2] For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3] For 1972, product code 28913 00 was included with product code 28914 00 and, thus, is not included in product class 28913 total.

[4] For 1972, product code 28915 00 was included with product code 28518 00 of Industry 2851, Paints and Allied Products, and, thus, is not included in product class 28915 total.

[5] Value of product shipments includes only shipments from privately owned and operated plants; value of shipments from government-owned, contractor-operated plants is included in value of shipments figure in table 1 as miscellaneous receipts.

[6] For 1972, product code 28921 13 was included with 28921 27.

[7] No carbon black produced or shipped by establishments classified in other industries.

[8] For more detail, see "Carbon Black, 1977," published by Energy Information Administration, U.S. Department of Energy.

[9] Data include between 50 and 100 thousand short tons of evaporated salt valued at less than $10 million and shipped by establishments classified in mineral industries. For annual information on evaporated salt, rock salt, and salt in brine, see U.S. Bureau of Mines "Minerals Yearbook".

[10] For 1977, product code 28994 51 was combined with product code 28994 98 to avoid disclosing operations of individual companies.

[11] For 1977, product code 28995 12 was combined with product code 28995 18 to avoid disclosing operations of individual companies.

[12] For 1972, product code 28995 31 was included with product code 28995 98.

[13] Excludes unspecified amount of permanent-type antifreeze preparations classified in product code 28697 13, Miscellaneous Cyclic and Acyclic Chemicals.

[14] For 1972, product code 28995 53 was combined with product code 28995 98.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28913, NATURAL BASE GLUES AND ADHESIVES		
United States	166.4	119.5
New England Division:		
Massachusetts	7.2	8.5
Middle Atlantic Division:		
New York	14.3	22.0
New Jersey	19.3	6.5
Pennsylvania	4.2	4.8
East North Central Division:		
Ohio	12.4	5.7
Illinois	8.9	22.8
Michigan	5.6	1.3
West North Central Division:		
Missouri	4.5	AA
South Atlantic Division:		
Georgia	5.3	1.9
East South Central Division:		
Tennessee	2.0	AA
West South Central Division:		
Texas	15.3	AA
Pacific Division:		
Oregon	2.1	AA
California	13.7	7.2
28914, SYNTHETIC RESIN AND RUBBER ADHESIVES		
United States	1,221.8	671.8
New England Division:		
Massachusetts	89.6	68.9
Connecticut	12.0	EE
Middle Atlantic Division:		
New York	75.7	51.5
New Jersey	90.0	45.5
Pennsylvania	67.1	28.7
East North Central Division:		
Ohio	109.9	68.8
Indiana	12.5	5.3
Illinois	172.3	78.3
Michigan	67.0	41.1
Wisconsin	27.2	8.5
West North Central Division:		
Missouri	24.2	19.3
South Atlantic Division:		
Maryland	13.9	CC
North Carolina	47.8	13.7
South Carolina	8.5	3.5
Georgia	54.0	26.5
Florida	10.4	2.5
East South Central Division:		
Tennessee	20.7	19.7
West South Central Division:		
Louisiana	19.1	EE
Texas	23.1	9.9
Pacific Division:		
Washington	17.9	EE
Oregon	56.8	39.2
California	116.6	67.2
28915, CAULKING COMPOUNDS AND SEALANTS		
United States	364.4	121.2
Middle Atlantic Division:		
New York	2.7	(NA)
New Jersey	30.0	12.4
Pennsylvania	15.3	6.2
28915, CAULKING COMPOUNDS AND SEALANTS--Con.		
East North Central Division:		
Ohio	66.6	31.4
Indiana	5.0	(NA)
Illinois	14.9	3.6
Michigan	19.7	AA
West North Central Division:		
Missouri	28.1	EE
South Atlantic Division:		
Georgia	13.2	5.9
Florida	2.8	(NA)
West South Central Division:		
Texas	17.8	BB
Pacific Division:		
California	35.9	CC
28921, EXPLOSVIES, EXCEPT THOSE SHIPPED BY GOVERNMENT-OWNED, CONTRACTOR-OPERATED PLANTS		
United States	426.1	232.8
Middle Atlantic Division:		
Pennsylvania	47.1	34.6
West North Central Division:		
Minnesota	17.8	EE
Pacific Division:		
California	23.2	EE
28931, LETTERPRESS INK, BLACK AND COLOR		
United States	105.9	109.8
Middle Atlantic Division:		
New York	7.6	6.1
New Jersey	11.9	20.4
Pennsylvania	2.0	7.1
East North Central Division:		
Ohio	13.0	13.8
Illinois	17.6	21.6
Michigan	3.9	3.2
West North Central Division:		
Missouri	2.8	4.0
South Atlantic Division:		
Georgia	2.8	2.0
Florida	2.5	2.3
Pacific Division:		
California	9.0	9.8
28932, LITHOGRAPHIC AND OFFSET INK, BLACK AND COLOR		
United States	303.2	151.8
New England Division:		
Massachusetts	5.3	2.1
Middle Atlantic Division:		
New York	21.9	12.3
New Jersey	37.3	16.5
Pennsylvania	9.7	9.5
East North Central Division:		
Ohio	34.4	16.9
Indiana	8.9	1.9
Illinois	51.4	37.1
Michigan	6.8	2.7
Wisconsin	6.5	4.7
West North Central Division:		
Minnesota	20.9	3.8
Missouri	10.1	4.5
South Atlantic Division:		
Maryland	2.9	(NA)
Georgia	6.7	2.9
Florida	3.9	2.4

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
28932, LITHOGRAPHIC AND OFFSET INK, BLACK AND COLOR--Con.		
East South Central Division:		
Tennessee	4.1	1.5
West South Central Division:		
Texas	7.6	2.3
Pacific Division:		
Washington	2.2	(NA)
Oregon	2.7	(NA)
California	31.5	15.0
28933, GRAVURE INK		
United States	190.7	82.5
Middle Atlantic Division:		
New Jersey	21.9	16.0
Pennsylvania	8.7	CC
East North Central Division:		
Ohio	13.6	6.1
Illinois	72.3	25.1
Wisconsin	3.5	1.9
West North Central Division:		
Missouri	3.5	2.7
South Atlantic Division:		
Virginia	8.4	(NA)
North Carolina	9.1	3.6
Georgia	3.5	AA
East South Central Division:		
Tennessee	5.2	(NA)
28934, FLEXOGRAPHIC INK		
United States	157.1	73.4
Middle Atlantic Division:		
New Jersey	27.9	12.6
Pennsylvania	9.4	4.8
East North Central Division:		
Ohio	12.5	4.8
Illinois	28.0	15.5
Wisconsin	5.1	4.0
West North Central Division:		
Missouri	8.3	BB
South Atlantic Division:		
Maryland	3.9	AA
North Carolina	2.3	BB
Georgia	11.5	4.1
East South Central Division:		
Tennessee	2.0	(NA)
West South Central Division:		
Louisiana	2.5	(NA)
Texas	6.1	2.4
Pacific Division:		
Oregon	5.4	BB
California	12.2	8.5
28935, PRINTING INK, N.E.C.		
United States	60.6	35.2
Middle Atlantic Division:		
New Jersey	22.1	20.9
Pennsylvania	2.2	(NA)
East North Central Division:		
Illinois	3.6	6.7
West North Central Division:		
Missouri	6.2	AA
Pacific Division:		
California	4.0	(NA)
28991, SALT		
United States	246.2	133.9
Middle Atlantic Division:		
New York	36.5	FF
East North Central Division:		
Michigan	57.3	FF
West North Central Division:		
Kansas	37.5	EE
Mountain Division:		
Utah	9.6	BB
28992, FATTY ACIDS		
United States	353.2	155.3
East North Central Division:		
Ohio	87.2	FF
West South Central Division:		
Louisiana	24.5	8.6
28994, GELATIN, EXCEPT READY-TO-EAT DESSERTS		
United States	175.3	68.2
New England Division:		
Massachusetts	66.2	FF
East North Central Division:		
Illinois	13.7	CC
28995, ESSENTIAL OILS, FIREWORKS, SIZES, CHEMICALS, N.E.C.		
United States	3,109.0	1,641.0
New England Division:		
Connecticut	57.0	40.3
Middle Atlantic Division:		
New York	190.1	89.8
New Jersey	245.0	147.8
Pennsylvania	182.2	91.9
East North Central Division:		
Ohio	276.6	124.5
Indiana	64.8	51.2
Illinois	365.4	175.0
Michigan	203.6	144.5
Wisconsin	54.3	37.9
West North Central Division:		
Iowa	20.4	BB
Missouri	85.7	57.4
Kansas	24.8	CC
South Atlantic Division:		
Maryland	32.3	19.2
North Carolina	34.2	19.7
South Carolina	4.0	1.8
Georgia	100.5	54.3
Florida	15.0	5.4
East South Central Division:		
Tennessee	27.8	21.2
Mississippi	7.5	EE
West South Central Division:		
Louisiana	149.0	17.7
Oklahoma	23.8	CC
Texas	399.3	158.5
Mountain Division:		
New Mexico	13.8	BB
Arizona	4.8	4.6
Pacific Division:		
Washington	30.6	CC
California	172.0	123.8

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. **Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2891-	Adhesives and sealants	1,873.1	1,655.4	1,463.6	1,403.9	1,151.8	954.3	547.7	(NA)
28913	Natural base glues and adhesives	166.4	209.3	190.7	202.7	144.8	119.5	98.4	[2]325.1
28914	Synthetic resin and rubber adhesives	1,221.8	1,134.1	1,016.0	958.0	800.7	671.8	356.6	
28915	Caulking compounds and sealants	364.4	309.1	261.5	231.9	163.4	121.2	68.3	(NA)
28910	Adhesives and sealants, n.s.k.	120.5	(S)	([3])	(11.3)	42.9	41.7	24.4	(NA)
2892-	Explosives	435.5	425.7	450.6	358.8	247.2	237.6	248.5	181.0
28921	Explosives, except those shipped by government-owned, contractor-operated plants	426.1	428.5	453.5	358.8	233.7	232.8	248.5	181.0
28920	Explosives, n.s.k.	9.4	([3])	([3])	-	(13.5)	4.7		
2893-	Printing ink	904.0	764.7	698.9	622.9	528.4	498.0	342.6	258.2
28931	Letterpress ink, black and color	105.9	(101.0)	(89.4)	91.9	100.1	109.8		
28932	Lithographic and offset ink, black and color	303.2	224.0	213.4	192.6	164.8	151.8		
28933	Gravure ink	190.7	144.7	131.8	119.9	92.6	82.5	342.6	258.2
28934	Flexographic ink	157.1	133.1	116.6	116.4	86.7	73.4		
28935	Printing ink, n.e.c.	60.6	(65.5)	(54.9)	44.9	36.9	35.2		
28930	Printing ink, n.s.k.	86.5	(96.3)	(92.8)	(57.2)	47.3	45.4		
28950	Carbon black, channel and furnace process only	466.2	377.1	306.7	331.1	239.4	227.1	167.8	149.4
2899-	Chemical preparations, n.e.c.	4,243.8	3,472.2	2,962.6	2,952.3	2,431.3	2,228.3	[4]1,559.6	[4] [5]1,124.1
28991	Salt	246.2	207.8	183.9	160.4	151.3	133.9	111.6	98.4
28992	Fatty acids	353.2	277.4	232.9	338.7	229.4	155.3	111.1	88.1
28994	Gelatin, except ready-to-eat desserts	175.3	147.3	144.3	148.8	75.5	68.2	66.2	55.4
28995	Essential oils, fireworks, sizes, and other chemical preparations, n.e.c.	3,109.0	2,760.2	2,339.2	2,132.6	1,758.5	1,641.0	[4]1,146.1	[4] [5]841.0
28990	Chemical preparations, n.e.c., n.s.k.	360.1	(78.0)	(61.8)	(171.8)	216.6	229.8	124.6	41.2

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Product group revised in 1972. 1967 data revised to agree with change; 1963 not revised. For 1967, products shifting into or out of product class represent approximately 14 percent of total shipments at U.S. level.

[3]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

[4]For 1967 and 1963, total shipments did not include values for product code 28995 83, Embalming Chemicals, which was part of product code 39943 98.

[5]For 1963, totals excluded values for sizes, product codes 28995 63 and 28995 65.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost[2] (million dollars)
	INDUSTRY 2891, ADHESIVES AND SEALANTS					
	Materials, containers, and supplies		(X)	967.2	(X)	458.8
201109	Glue stock and killing floor offal, scraps and bones		(X)	5.4	(X)	10.0
	Synthetic resins purchased from other establishments	Million lb.	[3]501.3	[3]152.6	(X)	63.0
282133	Polyvinyl acetate		*242.0	56.3		
282132	Styrene-butadiene resins		*29.9	10.0		
282142	Phenolic and other tar acid resins		10.9	5.6	(X)	(X)
282143	Amino resins		**21.3	6.5		
282106	All other plastics resins		**197.2	74.2		
282104	Synthetic resins produced and consumed in the same establishment (quantity only)		39.5	(X)	(X)	(X)
282202	Synthetic rubber		**145.0	61.2	(X)	31.0
286104	Wood rosin, turpentine, and other wood chemicals		40.6	11.1	(X)	23.0
204605	Starch and dextrin	Million lb.	**204.1	32.2	(X)	5.0
286010	Industrial organic chemicals n.e.c., including synthetic organic		(X)	147.0	(X)	115.0
140010	Nonmetallic minerals and earths, ground or otherwise treated, used as extenders and fillers (calcium carbonate, talc, silica, kaolin, mica, barite, soapstone, clay, and other clay minerals)		(X)	21.5	(X)	8.0
	Containers:					
307940	Plastic		(X)	10.0	(X)	2.0
340001	Metal		(X)	42.0	(X)	31.0
260091	Paper and paperboard containers, including shipping sacks		(X)	18.6	(X)	7.0
970099	All other materials and components, parts, containers, and supplies		(X)	213.0	(X)	163.8
971000	Materials, containers, and supplies, n.s.k.[4]		(X)	100.0		

1977 material code	Material	Unit of measure	1977 Consumption of materials received from other establishments: Quantity[1]	1977 Consumption of materials received from other establishments: Delivered cost (million dollars)	1977 Quantity of materials made and consumed in same plant	1972 Consumption of materials received from other establishments: Quantity	1972 Consumption of materials received from other establishments: Delivered cost (million dollars)	1972 Quantity of materials made and consumed in same plant
	INDUSTRY 2892, EXPLOSIVES							
	Materials, containers, and supplies[5]		(X)	210.3	(X)	(X)	90.0	(X)
287312	Ammonia, synthetic anhydrous (basis--100% NH_3)	1,000 s. tons	(D)	(D)	(D)	(X)	(6)	(X)
287314	Ammonium nitrate (basis--100% NH_4NO_3)		*298.9	31.8	185.3	312.5	12.5	(S)
280093	Mixed acid (sulfuric and nitric)		21.2	1.6	14.0	5.8	.5	(S)
287311	Nitric acid (basis--100% HNO_3)		24.8	3.4	337.8	(X)	(6)	(X)
281931	Sulfuric acid, except spent acid (basis--100% H_2SO_4)	1,000 s. tons	47.1	1.3	8.7	72.9	1.6	(S)
291101	Fuel oil used as a raw material	1,000 barrel (42 gallon)	**90.2	1.5	(X)	-	-	(X)
131152	Natural gas used as a raw material	Billion cu. ft.	(D)	(D)	(X)			
286965	Ethylene glycol, propylene glycol, etc. (basis--100%)	Million lb.	14.4	3.0	(X)			
281975	Sodium nitrate (nitrate of soda) (basis--100% $NaNO_3$)	1,000 s. tons	*25.5	4.1	(X)			
286969	Glycerine	Million lb.	3.6	1.8	(X)			
335105	Copper and copper-base alloy mill shapes (rod, bar, and sheet, etc.)	1,000 s. tons	7.0	5.7		(X)	(6)	(X)
289215	Water gel and slurry sensitizers, including powdered aluminum and hexamine		(X)	7.2	(X)			
289216	High explosives, including PETN, TNT, azides, and fulminates		(X)	16.2	(X)			
307940	Plastic containers		(X)	5.0	(X)			
260091	Paper and paperboard containers, and shipping sacks		(X)	10.1	(X)			
970099	All other materials and components, parts, containers, and supplies		(X)	91.3	(X)	(X)	6 68.1	(X)
971000	Materials, containers, and supplies, n.s.k.[4]		(X)	8.8	(X)	(X)	7.3	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Appendix A, Cost of Materials)

1977 material code	Material	Unit of measure	1977 Quantity	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 2893, PRINTING INK					
	Materials, containers, and supplies	.....	(X)	541.6	(X)	262.1
280023	Organic and inorganic pigments	Million lb.....	139.8	170.9		
289501	Carbon black		67.7	16.1		
282104	Plastic resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding rods, tubes, and shapes		91.3	47.1		
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		124.4	53.2		
286104	Wood rosin, turpentine, and other wood chemicals	Million lb.....	30.3	7.6		
290010	Hydrocarbon oils and solvents	Million gal....	83.8	58.0		
286923	Oxygenated solvents	Million gal....	17.1	14.6	(X)	262.1
	Containers:					
260091	Paper and paperboard, including shipping sacks	.....	(X)	1.0		
340001	Metal	.....	(X)	12.0		
307940	Plastic	.....	(X)	2.5		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	89.4		
971000	Materials, containers, and supplies, n.s.k.[4]	.....	(X)	69.2		
	INDUSTRY 2895, CARBON BLACK					
	Materials, containers, and supplies	.....	(X)	250.9	(X)	78.3
291101	Fuel oil used as a raw material[7]	Million barrels (42-gallon).	15.6	188.9	13.8	48.1
131152	Natural gas used as a raw material	Billion cu. ft.	25.2	30.2	58.5	11.7
260091	Paper and paperboard containers, including shipping sacks	.....	(X)	4.7	(X)	18.3
970099	All other materials and components, parts, containers, and supplies consumed	.....	(X)	26.1		
971000	Materials, containers, and supplies, n.s.k.[4]	.....	(X)	1.0	(X)	.2
	INDUSTRY 2899, CHEMICAL PREPARATIONS, N.E.C.					
	(Data not collected)[8]					

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified.
n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[3]Total includes a minimal proportion (2-3 percent) of synthetic resins, n.s.k.

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]Total cost of materials purchased and consumed by privately owned and operated plants only; excludes data on materials purchased and consumed by government-owned, contractor-operated plants.

[6]For 1972, these materials codes were included with material code 970099.

[7]In addition to residual and distillate fuel oil, includes other liquid hydrocarbons used as carbon black feed stocks.

[8]Supplemental data for industry 2899 are presented in the 1977 Census of Manufactures subject series report, "Selected Materials Consumed."

Petroleum and Coal Products

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DESCRIPTION OF INDUSTRIES

PETROLEUM AND COAL PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
2911	Petroleum Refining
2951	Paving Mixtures and Blocks
2952	Asphalt Felts and Coatings
2992	Lubricating Oils and Greases
2999	Petroleum and Coal Products, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 2911, PETROLEUM REFINING

This industry comprises establishments primarily engaged in the manufacture of gasoline, kerosene, distillate and residual fuel oils, lubricants, and other products from crude petroleum and its fractionation products through straight distillation of crude oil, redistillation of unfinished petroleum derivatives, and cracking or other processes. Establishments primarily engaged in producing natural gasoline from natural gas are classified in mining industries. Establishments primarily engaged in the manufacture of lubricating oils and greases by blending and compounding purchased materials and those primarily re-refining used lubricating oils are included in industry 2992.

Lubricating oils, lubricating oil base stocks, and lubricating greases are not only produced by petroleum refineries, but are also produced from purchased materials by plants blending and compounding lubricants, and are classified in Industry 2992, Lubricating Oils and Greases. Plants classified in industries 2911 and 2992 shipped substantially all of the lubricating oils and greases, valued at $3,233 million, with industry 2911 accounting for 53 percent.

Oils are frequently transferred from one refinery to another for further processing and blending. This introduces some duplication in the value of products shipped by the Petroleum Refining industry, as shown in tables 1, 2, 3, 4, and 5. To eliminate duplication in the statistics for individual products, figures were collected on the amount of oil received by refineries during the year. Net (unduplicated) shipments were calculated for the United States, as a whole, by subtracting "receipts" from the quantity shipped (see table 6a). These net shipments represent the quantity of petroleum products made available for consumption by the Petroleum Refining and Lubricating Oils and Greases industries.

Industry 2911 also includes establishments primarily engaged in the production of petroleum-based chemicals (petrochemicals). Detailed product statistics for liquefied refinery gases used as chemical raw material were not collected since these data are reported to the U.S. International Trade Commission and published in the report, Synthetic Organic Chemicals, United States Production and Sales.

Unlike most manufacturing industries where the receipts for contract work are reported as such, plants in industry 2911 processing oil on a contract basis for other companies were requested to report the commercial cost of all materials received and the market values, f.o.b. plant, for the products shipped.

Petroleum product statistics shown in this report are not directly comparable with the Bureau of Mines figures published in the Minerals Yearbook. The census of manufactures collects data on shipments, whereas the Bureau of Mines figures are in terms of "output" (production).

Data showing net shipments of gas liquids and related products covered in the 1977 Economic Censuses appear in the reports for the 1977 Census of Mineral Industries. Table 7a contains data showing the consumption of selected materials. Other data relating to "inputs" of materials appear as "receipts" in table 6a.

The total value of shipments for establishments classified in the Petroleum Refining industry amounted to $91,689 million in 1977, an increase of 254 percent from 1972. The value of shipments of petroleum products shipped by establishments classified in the Petroleum Refining industry was $88,590 million, an increase of 249 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were gasoline, for which shipments increased 221 percent, and light fuel oil, for which shipments increased 290 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added, by manufacture,

at $14,424 million in 1977, was 214 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 102.5 thousand employees, an increase of 2 percent from 1972. The leading States in employment were Texas, California, Louisiana, and Pennsylvania, accounting for approximately 63 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 60 percent of the industry's employment.

The cost of materials for the Petroleum Refining industry reflects the adjustment to the cost of crude petroleum imposed through the entitlements program (administered by the Economic Regulatory Administration, U.S. Department of Energy). This adjustment was included directly in the reported cost of domestic and foreign crude petroleum by most establishments. The adjustment amounts to a cash transfer from refiners to refiners, and therefore cancels out when the data are aggregated. However, distortions may exist in the regional statistics and in the separate cost figures (quantities are not affected) for domestic and foreign crude petroleum consumed, reported in tables 3a and 7a.

No establishments in this industry were excluded from the mail portion of the census. The data for a small number of establishments whose reports were not received at the time the data were tabulated were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 2951, PAVING MIXTURES AND BLOCKS

This industry comprises establishments primarily engaged in the manufacture of asphalt and tar paving mixtures; and paving blocks made of asphalt, creosoted wood, and various compositions of asphalt or tar with other materials. Establishments primarily engaged in the manufacture of brick, concrete, granite, and stone paving blocks are classified in major group 32. For a detailed list of products of industry 2951, refer to table 6a, product codes 29510 11 to 29510 98.

The total value of shipments for establishments classified in the Paving Mixtures and Blocks industry amounted to $1,578 million in 1977, an increase of 71 percent from 1972. The value of shipments of products classified as primary to the industry was $1,519 million, an increase of 70 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $508 million in 1977, was 26 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.9 thousand employees, a decrease of 7 percent from 1972. The leading States in employment were New York, Ohio, Pennsylvania, and California, accounting for approximately 35 percent of the industry's 1977 employment. Data for New York have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 2952, ASPHALT FELTS AND COATINGS

This industry comprises establishments primarily engaged in the manufacture of asphalt and other saturated felts in roll or shingle form, either smooth or faced with grit; and roofing cements and coatings. Establishments primarily engaged in the manufacture of paint are classified in industry 2851, and linoleum and tile cement in industry 2891. For a detailed list of products of industry 2952, refer to table 6a, product codes 29521 11 to 29523 98.

The total value of shipments for establishments classified in the Asphalt Felts and Coatings industry amounted to $2,078 million in 1977, an increase of 106 percent from 1972. The value of shipments of products classified as primary to the industry was $1,829 million, an increase of 103 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $764 million in 1977, was 72 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 19.5 thousand employees, an increase of 25 percent from 1972. The leading States in employment were Ohio, Illinois, Texas, and California, accounting for approximately 45 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 47 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 2992, LUBRICATING OILS AND GREASES

This industry comprises establishments primarily engaged in blending, compounding, and re-refining lubricating oils and

greases from purchased mineral, animal, and vegetable materials. Lubricating oils, lubricating oil base stocks, and lubricating greases produced by petroleum refineries are classified in industry 2911. Plants classified in industries 2911 and 2992 shipped substantially all of the lubricating oils and greases, valued at $3,233 million, with industry 2992 accounting for 44 percent.

The total value of shipments for establishments classified in the Lubricating Oils and Greases industry amounted to $1,645 million in 1977, an increase of 134 percent from 1972. The value of shipments of petroleum products shipped by establishments not classified as in the Petroleum Refining industry was $1,514 million, an increase of 185 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $525 million in 1977, was 77 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.3 thousand employees, an increase of 27 percent from 1972. The leading States in employment were Pennsylvania, California, Illinois, and Ohio, accounting for approximately 50 percent of the industry's 1977 employment. Data for Pennsylvania and California have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 2999, PETROLEUM AND COAL PRODUCTS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of fuel briquettes, boulets, packaged fuel, powdered fuel, and other products of petroleum and coal, not elsewhere classified.

The total value of shipments for establishments classified in the Petroleum and Coal Products, N.E.C. industry amounted to $463 million in 1977, an increase of 237 percent from 1972. The value of shipments of products classified as primary to the industry was $495 million, an increase of 255 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $157 million in 1977, was 179 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 1.6 thousand employees, an increase of 45 percent from 1972. The leading States in employment were California, Illinois, Ohio, and Texas, accounting for approximately 60 percent of the industry's 1977 employment. Data for Ohio and Texas have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The figures for fuel briquettes and packaged fuel appearing in this report exclude the quantities and amounts shipped by establishments producing wood charcoal briquettes (industry 2861) as well as establishments classified in nonmanufacturing industries. They therefore differ from the figures published by the Bureau of Mines, U.S. Department of Interior, in the Minerals Yearbook which include data for nonmanufacturing establishments, such as retail or wholesale coal yards, and public utilities which produce some fuel briquettes as a secondary activity. The census figures for fuel briquettes also include information for briquettes made from charcoal and sawdust (data which are omitted by the Bureau of Mines).

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 2911, PETROLEUM REFINING																
1977 Census	191	349	279	102.5	2 055.3	70.8	144.4	1 366.4	14 423.9	77 854.6	91 688.8	2 108.6	(NA)	5 196.2	99	97
1976 ASM	(NA)	(NA)	(NA)	101.7	1 886.9	70.9	145.4	1 245.9	11 409.6	66 303.0	77 507.3	2 531.1	22 274.5	4 801.8	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	101.0	1 665.8	70.2	138.9	1 063.4	8 927.2	56 553.9	65 254.2	2 275.2	20 262.9	4 395.3	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	102.9	1 461.8	73.2	146.2	952.8	8 363.5	47 616.9	54 833.8	1 716.3	18 193.6	3 770.1	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	98.0	1 303.1	68.6	134.8	845.1	6 518.5	25 606.8	31 845.8	1 012.5	16 655.0	2 365.5	(NA)	(NA)
1972 Census	154	323	277	100.8	1 247.1	71.2	142.3	816.3	4 594.7	21 171.3	25 921.1	1 061.6	15 571.1	2 002.2	99	97
1971 ASM	(NA)	(NA)	(NA)	106.7	1 230.0	74.3	148.7	794.2	4 613.8	20 091.9	24 583.7	1 232.3	15 798.2	2 228.6	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	107.7	1 161.2	75.4	152.7	753.3	4 607.9	18 258.1	22 783.3	1 151.9	14 771.7	2 130.8	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	108.0	1 090.8	75.6	146.5	685.7	4 949.8	17 567.6	22 486.4	1 023.4	13 814.3	2 028.2	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	107.1	1 024.9	75.4	152.3	665.5	4 838.8	16 555.3	21 361.2	1 019.3	12 958.9	1 976.6	(NA)	(NA)
1967 Census	276	437	287	106.7	965.0	75.6	151.6	632.2	4 745.0	15 683.7	20 293.9	956.3	12 111.9	1 904.3	98	97
1966 ASM	(NA)	(NA)	(NA)	105.5	897.3	75.5	149.9	597.5	4 099.2	14 640.9	18 758.7	630.7	(NA)	1 718.3	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	108.7	887.4	78.1	153.8	592.8	3 493.3	14 001.4	17 500.9	565.3	(NA)	1 680.0	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	113.8	905.9	81.6	162.1	605.0	3 192.2	13 606.3	16 802.4	384.3	10 289.1	1 678.4	(NA)	(NA)
1963 Census	266	427	297	118.3	922.3	85.2	166.4	614.3	3 138.2	13 367.3	16 497.5	385.1	10 096.5	1 695.5	98	97
INDUSTRY 2951, PAVING MIXTURES AND BLOCKS																
1977 Census	590	1 023	165	12.9	190.6	9.7	20.2	134.3	507.8	1 072.1	1 578.3	57.3	(NA)	62.8	95	93
1976 ASM[6]	(NA)	(NA)	(NA)	12.9	159.5	9.6	18.6	105.7	450.8	795.9	1 250.6	62.2	565.5	51.1	(NA)	(NA)
1975 ASM[6]	(NA)	(NA)	(NA)	13.0	156.4	9.7	20.8	105.5	428.4	781.2	1 237.2	51.3	513.0	54.0	(NA)	(NA)
1974 ASM[6]	(NA)	(NA)	(NA)	14.7	147.9	9.4	20.6	102.2	468.2	772.7	1 234.0	48.2	492.2	51.1	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	12.4	141.7	9.1	19.3	98.3	388.5	574.0	967.5	54.4	432.4	27.2	(NA)	(NA)
1972 Census	586	964	169	13.9	147.7	10.0	21.4	100.8	403.1	527.2	922.5	56.3	403.9	38.5	93	90
1971 ASM	(NA)	(NA)	(NA)	12.4	126.2	7.9	16.5	75.7	345.2	464.6	803.6	35.3	369.0	30.4	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	12.9	117.2	8.8	18.7	72.3	320.4	417.8	738.4	30.4	349.8	27.4	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	11.6	97.9	7.9	17.8	64.1	260.9	380.2	641.5	27.9	300.4	22.7	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	11.6	89.4	8.2	16.8	58.3	243.8	370.5	610.9	23.0	290.0	22.9	(NA)	(NA)
1967 Census	553	872	155	12.2	90.0	8.5	18.0	58.4	234.7	350.1	584.6	23.8	276.6	19.7	93	95
1966 ASM	(NA)	(NA)	(NA)	10.4	70.5	7.7	14.9	46.9	185.9	293.6	479.2	20.1	(NA)	14.5	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	10.1	67.5	7.4	15.9	44.7	183.6	279.6	461.9	19.9	(NA)	14.7	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	9.9	64.2	6.8	15.1	41.3	160.7	283.8	442.7	13.5	175.2	13.4	(NA)	(NA)
1963 Census	528	762	127	9.7	62.1	6.7	15.1	40.0	165.6	261.8	427.5	15.1	166.3	12.1	92	89
INDUSTRY 2952, ASPHALT FELTS AND COATINGS																
1977 Census	146	275	164	19.5	271.7	14.3	31.0	185.9	764.2	1 320.8	2 077.6	55.2	(NA)	157.2	91	97
1976 ASM	(NA)	(NA)	(NA)	18.9	236.9	13.7	29.6	156.9	733.4	1 169.3	1 894.0	52.1	439.5	138.6	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	16.6	188.1	12.2	26.4	128.7	636.8	980.0	1 606.4	33.9	370.2	121.5	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	17.3	184.6	12.8	28.8	129.0	623.3	908.9	1 504.2	35.4	339.2	110.6	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	16.7	168.9	12.6	28.7	119.1	487.5	651.0	1 146.7	26.8	298.3	64.1	(NA)	(NA)
1972 Census	117	235	140	15.6	148.7	11.5	26.4	103.2	443.3	573.5	1 010.4	19.6	281.3	64.7	93	96
1971 ASM	(NA)	(NA)	(NA)	14.4	127.8	10.4	23.7	87.3	376.1	508.0	879.8	15.8	238.3	54.8	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	14.2	114.8	10.2	23.0	78.3	259.9	431.5	691.2	11.8	229.0	50.1	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	13.8	109.5	9.9	23.3	75.5	249.2	404.7	654.7	8.8	219.7	47.6	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	14.0	102.8	10.1	22.9	70.8	241.5	394.9	633.4	13.1	211.8	46.2	(NA)	(NA)
1967 Census	115	226	138	14.4	96.3	10.4	22.9	66.2	221.1	373.8	597.8	8.8	210.6	42.4	91	95
1966 ASM	(NA)	(NA)	(NA)	14.7	91.3	10.7	23.0	65.8	226.3	366.1	589.4	9.6	(NA)	48.5	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	14.7	89.2	11.0	23.5	65.3	219.0	364.3	585.0	10.9	(NA)	42.6	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	14.6	87.1	10.9	23.8	61.3	207.2	364.7	573.4	8.7	218.8	44.3	(NA)	(NA)
1963 Census	126	230	140	14.6	82.5	10.9	23.0	57.3	190.0	339.0	527.6	7.0	214.4	43.0	90	92
INDUSTRY 2992, LUBRICATING OILS AND GREASES																
1977 Census	417	490	143	10.3	157.1	5.4	10.4	65.4	524.8	1 101.0	1 644.7	25.6	(NA)	180.8	94	44
1976 ASM[6]	(NA)	(NA)	(NA)	9.9	140.3	5.2	10.5	59.5	469.2	929.8	1 389.1	28.1	283.0	177.2	(NA)	(NA)
1975 ASM[6]	(NA)	(NA)	(NA)	9.7	125.9	5.1	10.0	51.7	405.1	773.5	1 175.2	41.2	268.8	150.0	(NA)	(NA)
1974 ASM[6]	(NA)	(NA)	(NA)	9.6	113.3	5.1	10.4	48.3	412.6	723.9	1 101.9	36.6	228.5	144.1	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	8.3	91.1	4.5	9.1	39.9	285.1	491.1	781.5	10.3	186.8	83.4	(NA)	(NA)
1972 Census	387	443	117	8.1	83.3	4.4	8.6	36.2	295.8	408.9	703.1	13.7	186.2	80.9	94	40
1971 ASM	(NA)	(NA)	(NA)	6.4	68.1	3.2	6.4	27.5	233.8	317.6	544.2	10.4	159.6	70.3	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	7.7	74.0	4.0	8.2	29.6	249.6	306.8	551.0	13.8	165.2	65.7	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	7.8	75.0	4.1	8.4	30.3	255.2	307.1	553.5	13.5	128.6	64.2	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	7.1	59.3	3.8	7.4	24.6	215.0	285.7	499.2	8.0	121.1	55.5	(NA)	(NA)
1967 Census	256	298	109	7.3	58.0	3.9	7.9	24.3	200.7	284.6	487.3	8.5	117.1	53.3	94	32
1966 ASM	(NA)	(NA)	(NA)	8.0	62.4	4.3	8.4	26.5	220.4	309.1	527.4	7.7	(NA)	57.3	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	7.9	56.8	4.3	8.7	25.4	212.9	285.8	498.9	7.0	(NA)	52.8	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	8.6	60.9	4.9	10.1	29.1	197.2	265.8	466.8	5.3	137.9	50.5	(NA)	(NA)
1963 Census	311	353	108	8.4	57.9	4.7	9.8	27.0	199.1	273.8	471.2	4.7	135.9	52.0	91	33

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 2999, PETROLEUM AND COAL PRODUCTS, N.E.C.															
1977 Census--	60	70	23	1.6	22.5	1.1	2.1	14.2	157.0	306.9	463.3	14.5	(NA)	59.3	97	87
1976 ASM[5] ---	(NA)	(NA)	(NA)	1.0	13.1	0.8	1.5	9.7	105.9	194.0	305.9	38.2	131.4	44.5	(NA)	(NA)
1975 ASM[5] ---	(NA)	(NA)	(NA)	0.9	11.3	0.7	1.4	8.0	102.1	109.7	211.5	16.3	94.2	30.2	(NA)	(NA)
1974 ASM[6] ---	(NA)	(NA)	(NA)	1.1	12.3	0.9	1.9	8.6	83.5	118.1	201.9	8.6	79.3	25.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	1.2	11.2	1.0	1.8	8.0	60.3	98.2	157.5	3.1	67.0	31.8	(NA)	(NA)
1972 Census--	42	51	17	1.1	10.6	0.9	1.8	7.5	56.3	81.6	137.6	3.0	65.7	36.7	99	91
1971 ASM----	(NA)	(NA)	(NA)	1.5	12.0	1.2	2.3	8.7	47.9	78.6	123.8	10.3	54.1	23.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	1.5	10.9	1.2	2.2	8.1	40.0	79.4	119.0	9.7	44.2	17.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	1.3	8.5	1.0	2.0	6.3	30.8	63.9	94.4	0.7	(S)	13.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	1.2	7.9	0.9	1.9	5.9	28.0	57.9	85.3	1.5	26.8	12.1	(NA)	(NA)
1967 Census--	38	47	15	1.1	6.9	0.8	1.7	5.2	24.4	56.2	79.8	1.8	25.5	10.0	99	92
1966 ASM----	(NA)	(NA)	(NA)	1.2	6.7	0.9	1.8	5.0	22.0	42.7	65.0	0.6	(NA)	12.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	1.1	6.6	0.8	1.7	4.5	22.6	42.5	64.6	0.4	(NA)	15.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	1.5	9.0	1.2	2.4	6.5	23.1	49.5	72.1	0.7	31.1	16.4	(NA)	(NA)
1963 Census--	59	67	17	1.5	9.0	1.2	2.4	6.5	21.0	49.6	71.5	1.8	30.7	15.3	96	91

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2911, PETROLEUM REFINING											
1977 Census--	20 048	(NA)	69	2 039	9.46	84	87	(NA)	140 696	14	99.91
1976 ASM----	18 553	219 021	69	2 050	8.56	85	87	28	112 188	16	78.47
1975 ASM----	16 493	200 622	69	1 978	7.65	86	89	31	88 388	18	64.27
1974 ASM----	14 206	176 808	71	1 997	6.51	86	89	33	81 277	17	57.20
1973 ASM----	13 296	169 948	70	1 965	6.26	80	84	52	66 515	19	48.35
1972 Census--	12 372	154 475	70	1 998	5.73	81	86	60	45 582	27	32.28
1971 ASM----	11 527	148 061	69	2 001	5.34	81	86	64	43 240	26	31.02
1970 ASM----	10 781	137 155	70	2 025	4.93	80	85	64	42 784	25	30.17
1969 ASM----	10 100	127 910	70	1 937	4.68	78	82	61	45 831	22	33.78
1968 ASM----	9 569	120 998	70	2 019	4.36	77	82	60	45 180	21	31.77
1967 Census--	9 044	113 513	70	2 005	4.17	77	82	59	44 470	20	31.29
1966 ASM----	8 505	(NA)	71	1 985	3.98	78	82	(NA)	38 854	21	27.34
1965 ASM----	8 163	(NA)	71	1 969	3.85	80	85	(NA)	32 137	25	22.71
1964 ASM----	7 960	90 413	71	1 986	3.73	80	86	61	28 050	28	19.69
1963 Census--	7 796	85 346	72	1 953	3.69	81	86	61	26 527	29	18.85
INDUSTRY 2951, PAVING MIXTURES AND BLOCKS											
1977 Census--	14 808	(NA)	75	2 090	6.64	67	80	(NA)	39 452	37	25.13
1976 ASM----	12 364	43 837	74	1 937	5.68	63	76	45	34 945	35	24.23
1975 ASM----	12 030	39 461	74	2 144	5.07	63	75	41	32 953	36	20.59
1974 ASM----	10 061	33 482	63	2 191	4.96	62	74	39	31 850	31	22.72
1973 ASM----	11 427	34 870	73	2 120	5.09	59	73	44	31 330	36	20.12
1972 Census--	10 625	29 057	71	2 140	4.71	57	73	43	29 000	36	18.83
1971 ASM----	10 177	29 758	63	2 088	4.58	57	73	45	27 838	36	20.92
1970 ASM----	9 085	27 116	68	2 125	3.86	56	72	47	24 837	36	17.13
1969 ASM----	8 439	25 896	68	2 253	3.60	59	74	46	22 491	37	14.65
1968 ASM----	7 706	25 000	70	2 048	3.47	60	75	47	21 017	36	14.51
1967 Census--	7 377	22 672	69	2 117	3.24	59	75	47	19 237	38	13.03
1966 ASM----	6 778	(NA)	74	1 935	3.14	61	75	(NA)	17 875	37	12.47
1965 ASM----	6 683	(NA)	73	2 148	2.81	60	75	(NA)	18 178	36	11.54
1964 ASM----	6 484	17 696	68	2 220	2.73	64	78	39	16 232	39	10.64
1963 Census--	6 402	17 144	69	2 253	2.64	61	75	38	17 072	37	10.96
INDUSTRY 2952, ASPHALT FELTS AND COATINGS											
1977 Census--	13 919	(NA)	73	2 168	6.00	63	76	(NA)	39 148	35	24.66
1976 ASM----	12 534	23 253	72	2 160	5.30	61	74	23	38 804	32	24.77
1975 ASM----	11 331	22 301	73	2 163	4.87	61	72	23	38 361	29	24.12
1974 ASM----	10 670	19 606	73	2 250	4.47	60	72	22	36 028	29	21.64
1973 ASM----	10 113	17 862	75	2 277	4.14	56	71	26	29 191	34	16.98
1972 Census--	9 532	18 032	74	2 295	3.90	56	71	27	28 417	33	16.79
1971 ASM----	8 875	16 548	72	2 278	3.68	57	72	27	26 118	33	15.86
1970 ASM----	8 084	16 126	71	2 254	3.40	62	79	33	18 302	44	11.30
1969 ASM----	7 934	15 920	71	2 353	3.24	61	78	33	18 057	43	10.69
1968 ASM----	7 342	15 128	72	2 267	3.09	62	78	33	17 250	42	10.54
1967 Census--	6 687	14 625	72	2 201	2.89	62	78	35	15 354	43	9.65
1966 ASM----	6 210	(NA)	72	2 149	2.86	62	77	(NA)	15 394	40	9.83
1965 ASM----	6 068	(NA)	74	2 136	2.77	62	77	(NA)	14 897	40	9.31
1964 ASM----	5 965	14 986	74	2 183	2.57	63	78	38	14 191	42	8.70
1963 Census--	5 650	14 684	74	2 110	2.49	64	79	40	13 013	43	8.26
INDUSTRY 2992, LUBRICATING OILS AND GREASES											
1977 Census--	15 223	(NA)	51	1 940	6.28	66	76	(NA)	50 847	29	50.47
1976 ASM----	14 171	28 585	52	2 019	5.66	66	77	20	47 393	29	44.68
1975 ASM----	12 979	27 711	52	1 960	5.17	65	76	22	41 762	31	40.51
1974 ASM----	11 802	23 802	53	2 039	4.64	65	75	20	42 979	27	39.67
1973 ASM----	10 975	22 506	54	2 022	4.38	52	74	23	34 349	31	31.32
1972 Census--	10 283	22 987	54	1 954	4.20	58	70	26	36 518	28	34.39
1971 ASM----	10 640	24 937	50	2 000	4.29	58	70	29	36 531	29	36.53
1970 ASM----	9 610	21 454	51	2 050	3.60	55	69	29	32 415	29	30.43
1969 ASM----	9 615	16 487	52	2 048	3.60	55	69	23	32 717	29	30.38
1968 ASM----	8 352	17 056	53	1 947	3.32	57	69	24	30 281	27	29.05
1967 Census--	7 945	16 041	53	2 025	3.07	58	70	24	27 493	28	25.40
1966 ASM----	7 800	(NA)	53	1 953	3.15	58	70	(NA)	27 550	28	26.23
1965 ASM----	7 189	(NA)	54	2 023	2.91	57	68	(NA)	26 949	26	24.47
1964 ASM----	7 081	16 034	56	2 061	2.88	56	69	29	22 930	30	19.52
1963 Census--	6 892	16 178	55	2 085	2.75	58	70	28	23 702	29	20.31

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2999, PETROLEUM AND COAL PRODUCTS, N.E.C.										
1977 Census--	13 931	(NA)	66	1 994	6.68	66	71	(NA)	97 303	14	73.75
1976 ASM----	13 100	131 400	80	1 875	6.46	63	67	42	105 900	12	70.60
1975 ASM----	12 555	104 666	77	2 000	5.71	51	57	44	113 444	11	72.92
1974 ASM----	11 181	72 090	81	2 111	4.52	58	64	39	75 909	14	43.94
1973 ASM----	9 333	55 833	83	1 800	4.44	62	69	42	50 250	18	33.50
1972 Census--	9 636	59 727	81	2 000	4.16	59	67	47	51 181	18	31.27
1971 ASM----	8 000	36 066	80	1 916	3.78	63	73	43	31 933	25	20.82
1970 ASM----	7 266	29 466	80	1 833	3.68	66	75	37	26 666	27	18.18
1969 ASM----	6 538	(S)	76	2 000	3.15	67	76	(S)	23 692	27	15.40
1968 ASM----	6 583	22 333	75	2 111	3.10	67	77	31	23 333	28	14.73
1967 Census--	6 272	23 181	72	2 125	3.05	70	79	31	22 181	28	14.35
1966 ASM----	5 583	(NA)	75	2 000	2.77	65	76	(NA)	18 333	30	12.22
1965 ASM----	6 000	(NA)	72	2 125	2.64	65	76	(NA)	20 545	29	13.29
1964 ASM----	6 000	20 733	80	2 000	2.70	68	81	43	15 400	38	9.62
1963 Census--	6 000	20 466	80	2 000	2.70	69	81	42	14 000	42	8.75

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2911, PETROLEUM REFINING													
United States	-	**349**	**279**	**102.5**	**2 055.3**	**70.8**	**144.4**	**1 366.4**	**14 423.9**	**77 854.6**	**91 688.8**	**2 108.6**	**100.8**	**4 594.7**
Middle Atlantic Division:														
New York	-	7	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	8	6	4.0	84.9	2.8	5.6	55.6	101.2	3 693.8	3 782.8	51.6	(NA)	(D)
Pennsylvania	-	18	13	7.6	149.2	5.4	11.0	103.1	939.5	4 279.0	5 161.6	76.9	9.1	262.8
East North Central Division:														
Ohio	-	10	9	2.6	55.6	1.9	3.8	38.1	456.6	3 015.2	3 448.0	36.1	2.9	215.5
Indiana	-	9	7	3.2	69.3	2.1	4.5	46.4	279.3	2 361.3	2 594.7	94.0	5.2	183.8
Illinois	-	17	12	6.5	134.3	4.6	9.8	92.6	1 248.7	5 596.5	6 834.3	61.7	6.4	277.6
Michigan	-	7	6	1.1	22.2	0.8	1.9	15.2	130.8	781.6	902.6	(D)	(NA)	(D)
Wisconsin	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Dakota	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	12	12	3.3	61.4	2.3	4.8	41.1	331.2	2 274.9	2 566.1	52.0	2.8	148.9
South Atlantic Division:														
Delaware	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	6	6	0.5	7.9	0.3	0.7	5.1	46.3	395.5	436.3	(D)	0.3	13.7
Mississippi	-	5	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Louisiana	-	26	24	9.5	198.0	6.4	10.9	118.4	1 745.1	9 129.6	10 829.6	131.3	8.5	408.7
Oklahoma	-	16	13	3.9	74.2	3.0	6.2	56.0	405.4	2 840.2	3 218.4	88.4	(NA)	(D)
Texas	-	76	58	32.4	653.9	23.1	49.1	450.5	4 075.2	22 946.3	26 848.4	1 021.6	30.2	1 274.4
Mountain Division:														
Montana	-	7	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wyoming	-	10	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.3	51.8
Colorado	-	4	3	0.4	8.0	0.3	0.6	4.8	25.0	207.5	(D)	(D)	(NA)	(D)
New Mexico	-	4	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Utah	-	7	7	0.8	14.7	0.6	1.2	10.8	98.1	560.8	661.5	(D)	0.6	42.0
Pacific Division:														
Washington	-	7	7	1.5	31.6	1.0	1.9	18.8	46.7	1 528.7	1 591.9	27.4	(NA)	(D)
California	-	41	35	14.7	290.8	9.0	17.5	177.0	2 315.2	9 610.5	11 870.9	130.5	13.2	615.2
Hawaii	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 2951, PAVING MIXTURES AND BLOCKS														
United States	-	**1 023**	**165**	**12.9**	**190.6**	**9.7**	**20.2**	**134.3**	**507.8**	**1 072.1**	**1 578.3**	**57.3**	**13.9**	**403.1**
New England Division:														
Maine	-	11	6	0.4	5.1	0.4	0.8	4.4	10.9	13.5	24.4	0.8	(NA)	(D)
Massachusetts	-	44	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	21	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	121	16	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	37	7	0.4	6.1	0.3	0.6	3.9	17.8	33.3	51.2	2.9	(NA)	(D)
Pennsylvania	-	92	13	1.1	14.2	0.9	1.6	9.9	33.7	78.7	112.1	3.8	1.1	30.2
East North Central Division:														
Ohio	-	94	18	1.1	15.9	0.9	1.7	11.8	41.8	112.8	154.2	6.1	1.0	26.1
Indiana	-	30	8	0.5	10.1	0.4	0.8	7.0	23.1	36.8	59.8	(D)	0.7	19.1
Illinois	-	28	4	0.4	5.6	0.3	0.5	3.5	17.0	36.1	53.3	1.5	0.5	12.0
Michigan	-	31	3	0.3	4.0	0.2	0.3	2.7	12.5	30.4	42.8	(D)	(NA)	(D)
Wisconsin	-	13	1	0.2	4.7	0.2	0.4	3.7	11.9	20.1	32.0	1.3	(NA)	(NA)
West North Central Division:														
Minnesota	-	14	3	0.2	2.4	0.1	0.2	1.2	6.5	14.7	21.1	1.9	(NA)	(NA)
Missouri	-	17	4	0.2	3.8	0.2	0.4	2.9	10.4	17.7	28.0	(D)	0.3	8.7
South Atlantic Division:														
Maryland	E2	24	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	16.4
Georgia	-	32	1	0.2	2.5	0.2	0.4	2.0	6.5	33.6	40.2	0.2	0.5	10.3
Florida	-	31	8	0.4	4.8	0.2	0.5	2.8	9.9	32.7	42.7	1.4	0.3	7.1
East South Central Division:														
Kentucky	-	25	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	27	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	8.0
Alabama	-	21	6	0.3	3.2	0.2	0.4	1.8	11.0	17.8	28.8	(D)	0.2	5.6
West South Central Division:														
Arkansas	-	11	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.5
Louisiana	E1	10	3	0.2	2.5	0.2	0.4	1.9	4.6	11.0	15.5	1.2	(NA)	(NA)
Texas	E1	28	4	0.3	3.1	0.2	0.5	2.1	11.9	28.7	40.3	2.3	0.3	7.4
Mountain Division:														
Colorado	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	8.3
Arizona	-	10	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	7	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oregon	-	14	5	0.3	4.3	0.2	0.5	2.9	11.6	19.9	31.4	(D)	(NA)	(D)
California	-	88	7	0.7	11.6	0.5	1.0	8.4	44.0	86.9	130.5	2.4	0.8	29.1

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 2952, ASPHALT FELTS AND COATINGS													
United States	-	**275**	**164**	**19.5**	**271.7**	**14.3**	**31.0**	**185.9**	**764.2**	**1 320.8**	**2 077.6**	**55.2**	**15.6**	**443.3**
New England Division:													
Massachusetts	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:													
New Jersey	-	14	13	1.4	22.1	1.1	2.7	16.8	46.4	118.0	164.2	6.0	(NA)	(D)
Pennsylvania	-	12	5	0.8	11.1	0.6	1.3	7.9	36.4	55.4	91.2	2.6	0.6	23.2
East North Central Division:														
Ohio	-	24	19	2.7	38.9	1.6	3.4	19.6	100.6	102.3	201.9	4.0	1.7	43.7
Indiana	-	6	5	0.3	4.9	0.3	0.7	3.8	15.6	37.6	52.9	(D)	0.2	7.1
Illinois	-	22	15	2.4	37.1	1.9	4.0	28.7	88.6	181.6	269.4	4.7	2.6	71.8
Michigan	-	7	4	0.2	3.1	0.1	0.3	2.5	11.3	16.3	27.6	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	7.3
Missouri	-	10	5	0.6	7.7	0.4	0.9	5.9	34.3	44.0	78.8	1.5	(NA)	(D)
Kansas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	5	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	6.3
North Carolina	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Carolina	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	7	6	0.6	9.0	0.5	1.2	7.1	33.1	62.5	93.8	2.9	0.6	22.4
Florida	-	15	4	0.3	3.3	0.2	0.4	2.0	12.4	26.0	37.8	0.6	0.3	13.6
East South Central Division:														
Tennessee	-	6	4	0.3	3.0	0.2	0.4	2.3	7.8	19.0	26.6	0.5	0.3	5.0
Alabama	-	5	4	0.6	7.8	0.5	1.0	6.0	21.9	44.7	66.2	(D)	(NA)	(D)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	6	5	0.8	8.0	0.6	1.1	5.5	17.9	28.3	46.4	2.0	0.5	8.3
Louisiana	E1	6	3	0.5	7.1	0.4	0.9	4.8	24.3	35.9	60.1	0.8	0.4	12.8
Oklahoma	-	6	4	0.6	6.2	0.5	0.9	4.6	11.7	33.3	44.9	(D)	0.3	5.9
Texas	-	21	16	2.1	27.9	1.2	2.6	13.6	77.4	119.3	196.2	3.8	1.8	42.0
Pacific Division:														
Washington	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oregon	-	8	6	0.3	4.9	0.2	0.5	3.3	11.7	29.4	40.8	(D)	(NA)	(D)
California	-	33	15	1.6	25.1	1.3	2.8	19.2	68.3	122.4	188.1	11.0	1.3	41.6
INDUSTRY 2992, LUBRICATING OILS AND GREASES														
United States	-	**490**	**143**	**10.3**	**157.1**	**5.4**	**10.4**	**65.4**	**524.8**	**1 101.0**	**1 644.7**	**25.6**	**8.1**	**295.8**
New England Division:														
Massachusetts	E1	14	4	0.2	3.3	0.1	0.3	1.4	13.6	22.1	35.4	0.7	(NA)	(D)
Middle Atlantic Division:														
New York	E1	32	8	0.5	7.1	0.3	0.5	3.3	16.8	35.9	53.7	1.0	(NA)	(D)
New Jersey	-	25	9	0.7	12.4	0.4	0.9	6.7	43.3	83.7	125.8	(D)	0.6	31.5
Pennsylvania	-	34	18	1.4	24.0	0.6	1.2	8.0	48.6	124.0	173.5	3.3	(NA)	(D)
East North Central Division:														
Ohio	-	34	15	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	22.5
Illinois	-	53	17	1.3	21.0	0.6	1.2	8.8	103.7	159.6	263.8	1.9	0.9	42.2
Michigan	-	28	10	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	20.6
Wisconsin	-	14	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	9	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	12	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	7	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	12.4
South Atlantic Division:														
Maryland	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	13	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	15	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	E1	50	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	53	14	1.1	18.6	0.5	1.0	5.7	68.6	93.1	159.2	3.3	(NA)	(D)
INDUSTRY 2999, PETROLEUM AND COAL PRODUCTS, N.E.C.														
United States	-	**70**	**23**	**1.6**	**22.5**	**1.1**	**2.1**	**14.2**	**157.0**	**306.9**	**463.3**	**14.5**	**1.1**	**56.3**
Middle Atlantic Division:														
Pennsylvania	E2	11	3	0.2	2.2	0.1	0.2	1.1	6.0	8.9	14.9	0.9	(NA)	(NA)
East North Central Division:														
Ohio	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	3.1
Illinois	-	6	3	0.2	2.4	0.1	0.2	1.7	8.5	34.2	42.4	0.8	(NA)	(NA)
West South Central Division:														
Texas	-	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	10	7	0.3	4.7	0.2	0.4	2.6	43.9	68.4	111.4	5.6	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Petroleum refining (SIC 2911)	Paving mixtures and blocks (SIC 2951)	Asphalt felts and coatings (SIC 2952)	Lubricating oils and greases (SIC 2992)	Petroleum and coal products, n.e.c. (SIC 2999)
Primary product specialization ratio[1]	percent	99	95	91	94	97
Coverage ratio[2]	do	97	93	97	44	87
All establishments	number	349	1 023	275	490	70
With 1 to 19 employees	do	70	858	111	347	47
With 20 to 99 employees	do	97	152	99	128	20
With 100 employees or more	do	182	13	65	15	3
All employees, average for year	1,000	102.5	12.9	19.5	10.3	1.6
Payroll for year, all employees	mil. dol.	2 055.3	190.6	271.7	157.1	22.5
Production workers:						
Average for year	1,000	70.8	9.7	14.3	5.4	1.1
March	do	69.4	6.5	13.2	5.1	1.1
May	do	71.2	10.3	14.3	5.3	1.1
August	do	71.8	11.5	14.6	5.5	1.1
November	do	70.8	10.3	15.0	5.4	1.1
Hours	millions	144.4	20.2	31.0	10.4	2.1
January to March	do	34.4	3.1	6.9	2.5	0.5
April to June	do	36.5	5.5	8.0	2.6	0.5
July to September	do	36.8	6.1	8.2	2.6	0.5
October to December	do	36.6	5.5	7.9	2.7	0.5
Wages	mil. dol.	1 366.4	134.3	185.9	65.4	14.2
Cost of materials, etc.	do	77 854.6	1 072.1	1 320.8	1 101.0	306.9
Materials, parts, containers, etc., consumed	do	72 064.8	904.3	1 150.4	966.4	274.2
Resales	do	3 233.5	42.3	95.6	100.2	15.5
Fuels consumed	do	1 664.9	70.2	54.2	11.9	12.4
Purchased electric energy	do	588.4	24.9	17.3	6.2	3.2
Contract work	do	303.0	30.4	3.3	16.5	1.7
Value of shipments, including resales	do	91 688.8	1 578.3	2 077.6	1 644.7	463.3
Value of resales	do	3 394.3	53.3	117.6	115.1	18.5
Value added by manufacture	do	14 423.9	507.8	764.2	524.8	157.0
Manufacturers' inventories:						
Beginning of year	do	4 471.6	53.5	142.6	192.9	52.3
Finished products	do	2 232.1	21.7	71.8	90.2	10.6
Work in process	do	1 160.5	2.0	9.6	20.4	0.3
Materials, supplies, fuel, etc.	do	1 079.0	29.9	61.2	82.4	41.5
End of year	do	5 196.2	62.8	157.2	180.8	59.3
Finished products	do	2 600.1	23.3	81.3	80.3	11.1
Work in process	do	1 382.1	2.0	7.4	11.3	0.3
Materials, supplies, fuel, etc.	do	1 213.9	37.4	68.5	89.1	47.9
Capital expenditures for plant and equipment	do	2 184.9	66.5	56.0	27.0	15.5
New capital expenditures	do	2 108.6	57.3	55.2	25.6	14.5
New buildings and other structures	do	589.2	8.4	13.0	5.7	1.5
New machinery and equipment	do	1 519.5	48.9	42.2	19.9	13.0
Used capital expenditures	do	76.3	9.2	0.8	1.4	0.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Petroleum refining (SIC 2911)		Paving mixtures and blocks (SIC 2951)		Asphalt felts and coatings (SIC 2952)		Lubricating oils and greases (SIC 2992)		Petroleum and coal products, n.e.c. (SIC 2999)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	168.5	1	(1.7)	(A)	1.6	10	(1.7)	89	0.5	10
Response coverage ratio[2] (percent)	65	(X)	62	(X)	61	(X)	61	(X)	73	(X)
Machinery	369.4	5	(14.8)	(A)	15.7	14	(4.6)	80	5.9	2
Response coverage ratio[2] (percent)	63	(X)	60	(X)	72	(X)	65	(X)	69	(X)
Cost of purchased communication services	15.7	6	(2.8)	22	3.3	10	(3.0)	(A)	(0.4)	34
Response coverage ratio[2] (percent)	61	(X)	75	(X)	63	(X)	60	(X)	62	(X)
Rental payments	99.7	1	(18.4)	21	7.0	10	(7.9)	17	(2.9)	59
Buildings and other structures	25.1	1	(1.9)	26	1.9	13	(3.9)	23	0.6	5
Machinery and equipment	74.6	1	(16.5)	22	5.1	13	(4.0)	25	(2.2)	75
Supplemental labor costs	506.2	1	36.1	5	56.7	1	29.6	4	4.9	6
Legal costs	125.0	1	19.5	8	26.8	2	11.2	7	1.9	2
Voluntary costs	381.2	1	16.6	1	29.9	2	18.4	4	2.9	11
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	8,966.2	1	113.0	14	127.8	3	108.5	10	19.5	7
New capital expenditures	582.8	3	(5.9)	(A)	12.2	4	(4.5)	20	(1.6)	23
Used capital expenditures	25.8	1	(1.1)	21	(8.2)	48	(4.5)	77	-	(X)
Retirements	112.9	2	(5.6)	33	(2.7)	22	4.0	6	(0.4)	15
End of year	9,462.0	1	115.0	14	145.6	6	113.5	10	20.8	8
Machinery and equipment:										
Beginning of year	13,196.4	1	486.4	2	337.7	4	196.4	5	125.2	8
New capital expenditures	1,517.2	1	(48.8)	19	44.9	5	19.8	8	13.0	8
Automobiles, trucks, etc., for highway use[3]	(18.5)	(A)	(7.9)	(A)	1.3	(A)	(1.9)	(A)	(0.1)	(A)
Computers and peripheral data processing equipment[3]	(1.8)	(A)	(0.2)	(A)	(Z)	(A)	(0.7)	(A)	-	(X)
All other[3]	1,215.9	2	(30.3)	(66)	(38.0)	(53)	(13.5)	(A)	(11.1)	(A)
New machinery and equipment, n.s.k.[4]	280.7	7	(10.4)	(A)	(5.6)	(A)	(3.7)	(A)	(1.8)	(A)
Used capital expenditures	50.4	2	(7.0)	21	(0.7)	59	0.3	8	0.7	11
Retirements	149.6	1	13.2	13	9.7	3	(11.3)	38	0.7	5
End of year	14,614.4	1	529.0	2	373.6	4	205.2	5	138.2	8
Total gross value of depreciable assets:										
Beginning of year	22,162.6	1	599.5	2	465.6	3	304.9	5	144.8	7
New capital expenditures	2,100.0	1	(54.7)	1.8	57.1	4	24.3	9	14.6	9
Used capital expenditures	76.3	1	(8.0)	21	(8.9)	95	(4.8)	73	0.7	11
Retirements	262.5	1	(18.2)	15	12.3	7	(15.3)	28	1.1	7
End of year	24,076.4	1	644.1	2	519.3	3	318.7	6	159.0	7
Depreciation charges during 1977	956.5	1	48.3	2	36.5	5	18.4	13	8.5	9
Buildings and other structures	378.6	1	5.5	14	5.8	5	4.4	8	0.6	13
Machinery and equipment	577.9	1	42.8	2	30.7	6	(14.0)	16	7.8	9

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operation of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2911, PETROLEUM REFINING												
Total	-	**349**	**102.5**	**2 055.3**	**70.8**	**144.4**	**1 366.4**	**14 423.9**	**77 854.6**	**91 688.8**	**2 108.6**	**5 196.2**
Establishments with an average of—												
1 to 4 employees	-	28	(0.1)	(2.1)	(0.1)	(0.2)	(1.4)	(6.2)	(150.6)	(164.6)	(5.7)	(6.1)
5 to 9 employees	E1	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	-	24	0.3	5.6	0.2	0.5	3.5	16.6	137.6	155.0	5.3	6.9
20 to 49 employees	-	62	2.0	34.2	1.5	3.0	23.3	253.5	1 566.0	1 806.1	121.2	82.5
50 to 99 employees	-	36	2.4	42.0	1.7	3.6	27.7	261.2	1 745.3	2 002.5	37.7	118.8
100 to 249 employees	-	72	12.3	232.2	8.9	18.7	162.7	1 558.2	9 270.2	10 729.1	220.3	749.6
250 to 499 employees	-	50	17.3	343.7	12.1	25.3	233.4	2 447.8	15 524.2	17 777.8	601.3	1 254.6
500 to 999 employees	-	41	29.2	593.7	19.7	39.9	389.9	4 324.7	22 606.1	26 818.5	484.0	1 452.5
1,000 to 2,499 employees	-	17	(38.8)	(801.7)	(26.6)	(53.0)	(524.7)	(5 555.8)	(26 854.5)	(32 235.3)	(633.2)	(1 525.1)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 2951, PAVING MIXTURES AND BLOCKS												
Total	-	**1 023**	**12.9**	**190.6**	**9.7**	**20.2**	**134.3**	**507.8**	**1 072.1**	**1 578.3**	**57.3**	**62.8**
Establishments with an average of—												
1 to 4 employees	-	422	1.0	14.7	0.8	1.7	10.8	75.5	197.7	273.1	8.8	9.1
5 to 9 employees	-	293	1.9	27.9	1.4	3.0	19.1	96.5	290.3	386.7	9.7	14.1
10 to 19 employees	-	143	1.9	27.6	1.4	3.0	18.2	81.0	188.3	268.5	7.0	11.8
20 to 49 employees	-	126	3.8	55.4	2.8	6.0	37.4	133.5	219.9	352.7	(31.8)	15.8
50 to 99 employees	E1	26	1.9	26.7	1.4	2.8	19.0	48.0	84.5	132.2	(D)	4.7
100 to 249 employees	E1	12	(2.4)	(38.4)	(1.9)	(3.8)	(29.7)	(73.3)	(91.4)	(165.1)	(D)	(7.2)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	125	0.4	4.8	0.3	0.6	3.1	11.8	22.0	33.8	1.7	1.3
INDUSTRY 2952, ASPHALT FELTS AND COATINGS												
Total	-	**275**	**19.5**	**271.7**	**14.3**	**31.0**	**185.9**	**764.2**	**1 320.8**	**2 077.6**	**55.2**	**157.2**
Establishments with an average of—												
1 to 4 employees	E4	48	0.1	1.0	0.1	0.1	0.7	4.3	7.2	11.4	0.1	1.1
5 to 9 employees	E4	27	0.2	2.3	0.1	0.3	1.5	7.8	18.7	26.4	0.5	1.7
10 to 19 employees	E1	36	0.5	5.6	0.3	0.6	3.4	17.5	42.5	60.4	1.2	6.4
20 to 49 employees	-	62	1.8	21.6	1.2	2.5	12.6	76.4	148.9	224.8	10.4	18.3
50 to 99 employees	-	37	2.9	38.8	2.2	4.6	26.7	116.7	206.5	322.5	13.6	22.9
100 to 249 employees	-	49	7.5	106.8	5.8	13.2	80.2	320.5	564.7	882.0	14.9	69.4
250 to 499 employees	-	11	3.2	43.2	2.5	5.4	33.0	115.9	239.2	353.5	7.9	22.0
500 to 999 employees	-	4	(3.4)	(52.4)	(2.0)	(4.2)	(27.8)	(105.1)	(93.1)	(196.5)	(6.6)	(15.4)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	55	0.3	3.8	0.2	0.5	2.6	9.6	15.3	24.9	0.6	1.8
INDUSTRY 2992, LUBRICATING OILS AND GREASES												
Total	-	**490**	**10.3**	**157.1**	**5.4**	**10.4**	**65.4**	**524.8**	**1 101.0**	**1 644.7**	**25.6**	**180.8**
Establishments with an average of—												
1 to 4 employees	E5	194	0.3	4.6	0.2	0.3	1.9	16.1	31.9	48.0	0.7	5.3
5 to 9 employees	E2	74	0.5	7.1	0.3	0.5	3.1	21.8	40.2	61.4	3.5	6.7
10 to 19 employees	-	79	1.1	15.1	0.7	1.3	7.3	62.8	151.6	213.3	2.1	22.3
20 to 49 employees	-	83	2.7	41.3	1.4	2.7	17.2	154.9	373.4	539.7	(19.3)	59.6
50 to 99 employees	-	45	3.2	45.2	1.6	3.1	20.3	128.2	269.0	395.8	(D)	41.6
100 to 249 employees	-	14	(2.6)	(43.8)	(1.2)	(2.4)	(15.5)	(140.9)	(235.0)	(386.6)	(D)	(45.3)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	131	0.2	3.6	0.2	0.3	1.5	10.6	20.6	31.1	0.5	3.1
INDUSTRY 2999, PETROLEUM AND COAL PRODUCTS, N.E.C.												
Total	-	**70**	**1.6**	**22.5**	**1.1**	**2.1**	**14.2**	**157.0**	**306.9**	**463.3**	**14.5**	**59.3**
Establishments with an average of—												
1 to 4 employees	E6	18	(Z)	0.4	(Z)	(Z)	0.3	2.5	4.4	6.9	0.3	1.7
5 to 9 employees	E6	11	0.1	1.0	(Z)	0.1	0.5	4.5	8.4	12.7	0.8	1.6
10 to 19 employees	-	18	0.2	3.3	0.2	0.4	2.4	23.0	29.3	52.1	2.3	4.6
20 to 49 employees	-	15	(1.3)	(17.7)	(0.8)	(1.6)	(10.9)	(127.0)	(264.9)	(391.6)	(11.1)	(51.4)
50 to 99 employees	-	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	13	(Z)	0.6	(Z)	0.1	0.4	4.3	7.8	12.0	0.6	1.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2911	**Petroleum refining:**										
	Entire industry	349	102.5	2 055.3	70.8	144.4	1 366.4	14 423.9	77 854.6	91 688.8	2 108.6
	Establishments with 75 percent specialization or more	330	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
29111	Gasoline:										
	Establishments with this product class primary	170	82.4	1 689.2	56.6	117.9	1 118.8	11 700.5	67 306.1	78 541.4	1 683.7
	Establishments with 75 percent specialization or more in class	13	2.0	42.3	1.2	2.5	24.0	330.5	1 745.6	2 067.4	35.2
29112	Jet fuel:										
	Establishments with this product class primary	7	0.6	9.5	0.4	0.8	5.3	19.4	596.6	621.0	10.8
29113	Kerosene:										
	Establishments with this product class primary	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
29114	Light fuel oil:										
	Establishments with this product class primary	16	1.5	28.6	1.0	2.2	18.1	278.7	1 570.2	1 809.6	30.0
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
29115	Heavy fuel oil:										
	Establishments with this product class primary	26	6.1	113.7	4.4	6.4	77.3	1 466.1	4 567.2	5 980.3	142.7
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.5
29116	Liquefied refinery gases (including other aliphatics):										
	Establishments with this product class primary	17	5.0	98.2	3.3	7.0	64.5	458.7	1 720.0	2 155.6	156.2
	Establishments with 75 percent specialization or more in class	13	3.2	61.0	2.2	4.4	40.5	272.4	975.0	1 215.1	(D)
29117	Lubricating oils and greases, made in refineries:										
	Establishments with this product class primary	10	2.1	33.5	1.7	3.3	25.4	58.2	498.0	550.9	22.1
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
29118	Unfinished oils and lubricating oil base stock:										
	Establishments with this product class primary	10	1.4	26.9	1.1	1.8	18.7	137.5	531.2	669.2	10.1
	Establishments with 75 percent specialization or more in class	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
29119	Asphalt:										
	Establishments with this product class primary	32	1.2	20.1	0.9	1.8	14.2	76.3	468.0	543.0	6.1
	Establishments with 75 percent specialization or more in class	16	0.4	7.3	0.3	0.6	5.5	33.7	115.9	149.3	2.6
2951	**Paving mixtures and blocks:**										
	Entire industry	1 023	12.9	190.6	9.7	20.2	134.3	507.8	1 072.1	1 578.3	57.3
	Establishments with 75 percent specialization or more	945	10.8	158.0	8.0	16.6	109.8	438.0	977.7	1 413.5	51.3
2952	**Asphalt felts and coatings:**										
	Entire industry	275	19.5	271.7	14.3	31.0	185.9	764.2	1 320.8	2 077.6	55.2
	Establishments with 75 percent specialization or more	246	16.6	229.3	12.7	27.7	164.0	648.8	1 178.5	1 821.4	48.9
29521	Asphalt and tar saturated felts and boards, nonbuilding:										
	Establishments with this product class primary	13	0.7	9.3	0.5	1.1	6.4	25.3	31.2	56.3	1.3
	Establishments with 75 percent specialization or more in class	8	0.4	5.3	0.3	0.7	4.2	16.7	19.5	35.9	(D)
29522	Roofing asphalts, pitches, coatings, and cements:										
	Establishments with this product class primary	69	3.1	45.6	1.3	2.5	13.4	117.4	178.8	297.3	3.5
	Establishments with 75 percent specialization or more in class	48	1.5	23.4	0.7	1.3	7.1	54.9	124.6	180.9	1.7
29523	Prepared asphalt and tar roofing and siding products:										
	Establishments with this product class primary	110	14.9	206.9	11.9	26.1	159.7	594.9	1 067.1	1 654.0	47.9
	Establishments with 75 percent specialization or more in class	99	11.5	156.3	9.1	20.2	119.2	475.7	890.3	1 360.5	40.1
2992	**Lubricating oils and greases:**										
	Entire industry	490	10.3	157.1	5.4	10.4	65.4	524.8	1 101.0	1 644.7	25.6
	Establishments with 75 percent specialization or more	457	8.6	129.3	4.5	8.7	55.6	457.9	984.6	1 462.8	20.8
2999	**Petroleum and coal products, n.e.c.:**										
	Entire industry	70	1.6	22.5	1.1	2.1	14.2	157.0	306.9	463.3	14.5
	Establishments with 75 percent specialization or more	61	1.2	17.6	0.8	1.7	11.7	144.8	285.8	429.5	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
2911	Petroleum refining.....1977..	91,688.8	87,204.8	790.5	3,693.5	99	[1]90,103.9	87,204.8	[1]2,899.1	[2]97
	1972..	25,921.1	24,590.1	322.3	1,008.7	99	[1]25,414.8	24,590.1	[1]824.7	[2]97
	1967..	20,293.9	19,147.9	374.0	772.0	98	[1]19,691.9	19,147.9	[1]544.0	[2]97
2951	Paving mixtures and blocks.....1977..	1,578.3	1,409.1	80.8	88.4	95	1,518.6	1,409.1	109.5	93
	1972..	922.6	806.8	64.0	51.8	93	893.4	806.8	86.6	90
	1967..	584.6	505.4	39.3	39.9	93	529.6	505.4	24.2	95
2952	Asphalt felts and coatings.....1977..	2,077.6	1,765.2	184.5	127.9	91	1,828.6	1,765.2	63.4	97
	1972..	1,011.4	869.5	67.8	74.1	93	902.2	869.5	32.7	96
	1967..	597.8	492.8	48.2	56.8	91	519.4	492.8	26.6	95
2992	Lubricating oils and greases[3].....1977..	1,644.7	1,425.5	88.1	131.1	94	3,233.3	1,425.5	1,807.8	[2]44
	1972..	703.1	612.6	36.2	54.2	94	1,536.8	612.6	924.1	[2]40
	1967..	487.3	425.7	25.3	36.3	94	1,327.0	425.7	901.3	[2]32
2999	Petroleum and coal products, n.e.c.....1977..	463.3	429.6	13.6	20.1	97	494.6	429.6	65.0	87
	1972..	137.6	126.3	1.5	9.8	99	139.2	126.3	12.9	91
	1967..	79.8	73.5	.4	5.9	99	79.6	73.5	6.1	92

n.e.c. Not elsewhere classified.

[1]Includes lubricating oils and greases which are also primary to Industry 2992, Lubricating Oils and Greases.

[2]1977 coverage ratio computed on basis of including both industries to which lubricating oils and greases are primary would total 97 percent: 53 percent by industry 2911 and 44 percent by industry 2992. Remaining 3 percent was shipped by establishments in other industries. Computed on basis of excluding industry 2911, 1977 ratio for industry 2992 is 94 percent.

[3]Included in figures for this industry are lubricating oils and greases which are also primary to Industry 2911, Petroleum Refining.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Petroleum refining products (SIC 2911)	Paving mixtures and blocks (SIC 2951)	Asphalt felts and coatings (SIC 2952)	Lubricating oils and greases (SIC 2992)	Petroleum and coal products, n.e.c. (SIC 2999)	Other industries
	Total	(X)	91,688.8	1,578.3	2,077.6	1,644.7	463.3	(X)
	Primary products	(X)	87,204.8	1,409.1	1,765.2	1,425.5	429.6	(X)
	Secondary products	(X)	790.5	80.8	184.5	88.1	13.6	(X)
	Miscellaneous receipts	(X)	3,693.5	88.4	127.9	131.1	20.1	(X)
2911-	Petroleum refining products	88,589.5	87,204.8	(D)	(D)	(D)	(D)	1,365.1
29111	Gasoline	41,840.4	41,838.1	-	-	(D)	-	(D)
29112	Jet fuel	5,365.3	5,363.8	-	-	(D)	-	(D)
29113	Kerosene	1,223.9	(D)	-	-	(D)	-	-
29114	Light fuel oil	17,171.9	17,163.8	-	-	(D)	-	(D)
29115	Heavy fuel oil	6,793.9	(D)	-	-	(D)	-	-
29116	Liquefied refinery gases (including other aliphatics)	4,500.8	3,986.8	-	-	(D)	-	(D)
29117	Lubricating oils and greases, made in refineries	1,718.9	1,718.9	-	-	-	-	-
29118	Unfinished oils and lubricating oil base stock	2,887.8	(D)	-	-	(D)	-	-
29119	Asphalt	2,216.7	2,215.1	-	-	(D)	-	(D)
29110	Other petroleum products and refinery products, n.s.k.	4,869.8	4,017.8	(D)	(D)	(D)	(D)	(D)
29510	Paving mixtures and blocks	1,518.6	-	1,409.1	(D)	(D)	-	85.4
2952-	Asphalt felts and coatings	1,828.6	(D)	(D)	1,765.2	-	-	35.6
29521	Asphalt and tar saturated felts and boards, nonbuilding	99.5	(D)	(D)	85.7	-	-	(D)
29522	Roofing asphalts, pitches, coatings, and cements	263.4	(D)	(D)	246.9	-	-	6.8
29523	Prepared asphalt and tar roofing and siding products	1,405.3	(D)	(D)	1,373.3	-	-	(D)
29520	Asphalt felts and coatings, n.s.k.	60.5	-	-	59.3	-	-	1.1
29920	Lubricating oils and greases, not made in refinery	1,514.4	(D)	(D)	(D)	1,425.5	(D)	67.4
29990	Petroleum and coal products, n.e.c.	494.6	(D)	-	(D)	(D)	429.6	29.7
	Other shipments by 4-digit product group:							
1422-	Crushed and broken limestone	(X)	-	(D)	-	-	-	(X)
1429-	Crushed and broken stone, n.e.c.	(X)	-	17.5	(D)	-	-	(X)
1442-	Construction sand and gravel	(X)	-	19.9	(D)	-	-	(X)
2499-	Wood products, n.e.c.	(X)	-	-	-	-	(D)	(X)
2641-	Coated and glazed paper	(X)	-	-	(D)	-	-	(X)
2643-	Bags, except textile bags	(X)	(D)	-	-	-	-	(X)
2661-	Building paper and board	(X)	-	-	(D)	-	-	(X)
2819-	Industrial inorganic chemicals, n.e.c.	(X)	(D)	-	-	(D)	-	(X)
2821-	Plastics materials and resins	(X)	(D)	-	-	-	-	(X)
2822-	Synthetic rubber	(X)	(D)	-	-	-	-	(X)
2841-	Soap and other detergents	(X)	-	-	-	(D)	-	(X)
2842-	Polishes and sanitation goods	(X)	-	-	-	(D)	-	(X)
2843-	Surface active agents	(X)	37.9	-	-	(D)	-	(X)
2851-	Paints and allied products	(X)	-	-	7.4	(D)	-	(X)
2865-	Cyclic crudes and intermediates	(X)	110.2	-	-	-	-	(X)
2869-	Industrial organic chemicals, n.e.c.	(X)	241.8	-	-	3.4	-	(X)
2873-	Nitrogenous fertilizers	(X)	(D)	-	-	-	-	(X)
2891-	Adhesives and sealants	(X)	-	-	(D)	-	-	(X)
2899-	Chemical preparations, n.e.c.	(X)	-	-	(D)	(D)	(D)	(X)
3079-	Miscellaneous plastics products	(X)	(D)	-	(D)	-	-	(X)
3272-	Concrete products, n.e.c.	(X)	-	(D)	(D)	-	-	X)
3273-	Ready-mixed concrete	(X)	-	24.7	(D)	-	-	(X)
3292-	Asbestos products	(X)	-	-	76.1	-	-	(X)
3295-	Minerals, ground or treated	(X)	-	(D)	-	-	(D)	(X)
3411-	Metal cans	(X)	(D)	-	-	-	-	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	254.1	15.3	5.4	13.2	1.5	(X)
99980 13	Sales of scrap and refuse	(X)	7.4	-	1.9	-	-	(X)
99980 41	Receipts for research and developmental work	(X)	17.5	-	-	-	-	(X)
99980 98	Other miscellaneous receipts	(X)	20.1	19.9	3.0	2.8	(Z)	(X)
99989 00	Resales	(X)	3,394.3	53.3	117.6	115.1	18.5	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
2911-	2821 Plastics materials and resins	(D)	2952-	2891 Adhesives and sealants	(D)
	2865 Cyclic crudes and intermediates	(D)			
	2869 Industrial organic chemicals, n.e.c	1,329.1	2992-	2841 Soap and other detergents	22.9
2951-	1422 Crushed and broken limestone	20.9		2842 Polishes and sanitation goods	6.1
	1429 Crushed and broken stone, n.e.c	5.2		2869 Industrial organic chemicals, n.e.c	(D)
	1442 Construction sand and gravel	5.1		2899 Chemical preparations, n.e.c	21.3
	3273 Ready-mixed concrete	39.7	2999-	2813 Industrial gases	(D)
2952-	2291 Felt goods, except woven felts and hats	(D)		2899 Chemical preparations, n.e.c	(D)
	2865 Cyclic crudes and intermediates	(D)		3334 Primary aluminum	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977					1972			
			Number of companies with shipments of $100,000 or more	Product shipments[1] Receipts[2] (quantity)	Product shipments[1] Quantity[3]	Product shipments[1] Value (million dollars)	Net shipments[4] (quantity)	Receipts[2] (quantity)	Product shipments Quantity	Product shipments Value (million dollars)	Net shipments[4] (quantity)
	PETROLEUM PRODUCTS										
2911- -- 2992- --	Total	.....	(NA)	(X)	(X)	90,103.9	(X)	(X)	(X)	25,414.8	(X)
2911- --	Products of petroleum refining	.....	(NA)	(X)	(X)	88,589.5	(X)	(X)	(X)	24,772.8	(X)
2992- --	Lubricating oils and greases, not made in refineries	.....	(NA)	(X)	(X)	1,514.4	(X)	(X)	(X)	642.0	(X)
29111 --	Gasoline, including finished base stocks and blending agents[5]	Mil. bbl.	(NA)	(X)	(X)	41,840.4	(X)	(S)	2,396.8	13,029.6	(X)
29111 11	Aviation gasoline, except jet fuel		17	(S)	67.5	1,092.4	(S)	S)	53.6	305.5	(S)
29111 31	Motor gasoline	Mil. bbl.	100	20.7	2,603.7	40,735.5	2,583.0	40.9	2,343.2	12,724.1	2,302.3
29111 00	Gasoline, including finished base stocks and blending agents, n.s.k.	.....	(NA)	(X)	(X)	12.5	(X)	(X)	(X)	-	(X)
29112 --	Jet fuel	Mil. bbl.	(NA)	(X)	(X)	5,365.3	(X)	8.9	310.9	1,371.6	302.0
29112 11	Naphtha type		51	2.3	83.7	1,190.4	81.4	2.3	66.8	283.0	64.5
29112 13	Kerosene type	Mil. bbl.	39	2.6	289.9	4,174.9	287.3	6.6	244.3	1,088.6	237.7
29112 00	Jet fuel, n.s.k.	.....	(NA)	(X)	(X)	-	(X)	(X)	(X)	-	(X)
29113 --	Kerosene:										
29113 11	Kerosene, except jet fuel	Mil. bbl.	51	4.7	87.4	1,223.9	82.7	4.6	81.4	372.4	76.8
29114 --	Light fuel oil		(NA)	(X)	(X)	17,171.9	(X)	18.8	1,032.8	4,407.7	1,014.0
29114 12	Distillate fuel oil, including grades no. 1 and 2, light diesel type, light gas-enrichment oils, etc.		124	23.5	1,205.6	16,845.6	1,180.7				
29114 14	No. 4 type fuel oil	Mil. bbl.	32	4.3	24.0	315.6	19.7				
29114 00	Light fuel oil, n.s.k.	.....	(NA)	(X)	X)	10.7	(X)				
29115 --	Heavy fuel oil:										
29115 11	Heavy fuel oil, including grades no. 5 and 6, heavy diesel-type, heavy gas-enrichment oils, etc.	Mil. bbl.	116	84.2	567.1	6,793.9	483.0	58.8	336.8	1,107.2	278.0
29116 --	Liquefied refinery gases, including other aliphatics (feed stock and other uses)		(NA)	(X)	X)	4,500.8	X)	S)	(S)	1,152.9	(S)
	Chemical raw material, including synthetic rubber components:[6]										
	Liquefied refinery gases:										
29116 12	Ethane and/or ethylene		12	(X)	47.8	744.8	(X)				
29116 13	Propane and/or propylene		47	X)	88.4	957.5	X)				
29116 14	Butane and/or butylene		31	(X)	40.6	488.7	X)	(S)	(S)	586.7	(S)
29116 17	Other liquefied refinery gases		15	(X)	14.8	341.9	(X)				
29116 31	Other aliphatics, including feedstock mixtures		17	(X)	91.6	1,225.7	X)	(S)	(S)	383.5	(S)
	Other uses:										
	Liquefied refinery gases:										
29116 52	Ethane and/or ethylene		4	(X)	7.0	69.8	(X)				
29116 53	Propane and/or propylene		25	(X)	32.3	337.6	(X)				
29116 54	Butane and/or butylene		16	(X)	6.6	75.1	(X)	(S)	(S)	182.7	S)
29116 55	Other liquefied refinery gases		11	(X)	13.0	91.5	X)				
29116 71	Other aliphatics	Mil. bbl.	9	(X)	8.3	167.2	X)				
29116 00	Liquefied refinery gases, including other aliphatics (feed stock and other uses), n.s.k.	.....	(NA)	(X)	(X)	.9	(X)	(X)	(X)	-	(X)
29118 --	Unfinished oils and lubricating oil base stock[7]	.....	(NA)	(X)	(X)	2,887.8	(X)	(X)	(X)	733.7	X)
29118 13	Unfinished oils, naphthenic and paraffinic[8]	Mil. bbl.	28	96.4	91.7	1,205.5	[9]-4.7	76.7	67.1	252.4	[9]-5.6
29118 16	Naphtha and other oils for use as petrochemical feedstocks, excluding carbon black		18	4.6	57.6	678.5	53.0	8.6	41.4	154.9	32.8
29118 17	Carbon black feedstock		15	(S)	10.5	128.3	S)				
	Lubricating oil petroleum base stocks for blending, compounding, and grease manufacture:[10]										
29118 51	Bright stock		13	12.2	3.6	107.7	[9]-8.6				
29118 52	Neutral stock		17	20.3	24.3	659.1	4.0				
29118 54	Black oils		4	.1	2.6	26.2	2.5	7.2	31.9	325.6	24.7
29118 56	Red and pale oils		4	3.7	1.9	39.6	[9]-1.8				
29118 58	Other oils	Mil. bbl.	9	1.3	2.5	40.5	1.2				
29118 00	Unfinished oils and lubricating oil base stock, n.s.k.	.....	(NA)	(X)	(X)	2.4	(X)	(X)	(X)	.8	(X)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977					1972			
			Number of companies with shipments of $100,000 or more	Receipts[2] (quantity)	Product shipments[1] Quantity[3]	Product shipments[1] Value (million dollars)	Net shipments[4] (quantity)	Receipts[2] (quantity)	Product shipments Quantity	Product shipments Value (million dollars)	Net shipments[4] (quantity)
2911- -- 2992- --	PETROLEUM PRODUCTS--Con.										
29119 --	Asphalt[11]	.....	(NA)	(X)	(X)	2,216.7	(X)	(X)	(X)	671.5	(X)
29119 21	Paving grade asphalt	Mil. bbl.	55	8.9	154.5	1,594.9	145.6				
29119 31	Roofing grade asphalt		27	(S)	23.9	266.3	(S)	55.5	164.9	668.1	109.4
29119 41	Miscellaneous asphalt, n.e.c.	Mil. bbl.	34	(S)	32.4	355.5	(S)				
29119 00	Asphalt, n.s.k.	.....	(NA)	(X)	(X)	-	(X)	(X)	(X)	3.4	(X)
29110 --	Other finished petroleum products, including waxes	.....	(NA)	(X)	(X)	4,869.8	(X)	(X)	(X)	1,031.4	(X)
29110 11	Petrolatum	Mil. bbl.	14	.3	2.8	72.0	2.5	.6	1.6	20.0	1.0
29110 21	Petroleum coke	1,000 s. tons.	26	1,544.1	9,418.5	380.7	7,874.4	(S)	(S)	122.3	(S)
29110 31	Road oil[12]	Mil. bbl.	14	(S)	3.3	36.5	(S)	(S)	8.5	34.2	(S)
29110 41	Still gas	Mil. cu. ft.	10	-	52.9	131.9	52.9	-	23.5	16.8	23.5
29110 51	Special naphthas[13]	Mil. bbl.	25	.3	29.4	533.5	29.1	.3	17.8	84.2	17.5
	Aromatics (benzene, toluene, xylenes, etc.):										
29110 54	Chemical raw material[6]		32	(X)	95.9	2,840.7	(X)	-	71.4	487.7	71.4
29110 56	Other uses		9	(X)	7.4	148.6	(X)				
	Wax:										
29110 61	Microcrystalline[14]		16	.2	1.8	72.4	1.6	(S)	1.8	32.7	(S)
29110 71	Crystalline, fully refined		15	(S)	3.1	101.6	(S)	.1	3.9	56.2	3.8
29110 81	Crystalline, other		12	(S)	10.8	60.4	(S)	(S)	(S)	20.0	(S)
29110 98	Other finished petroleum products	Mil. bbl.	27	(S)	27.7	379.7	(S)	(S)	(S)	106.9	(S)
29110 00	Products of petroleum refining, n.s.k. (see note)	.....	(NA)	(X)	(X)	112.0	(X)	(X)	(X)	50.4	(X)
	Lubricating oils and greases	.....	(NA)	(X)	(X)	3,233.3	(X)	(X)	(X)	1,536.8	(X)
29117 --	Made in petroleum refineries	.....	(NA)	(X)	(X)	1,718.9	(X)	(X)	(X)	894.8	(X)
29920 --	Not made in refineries	.....	(NA)	(X)	(X)	1,514.4	(X)	(X)	(X)	642.0	(X)
	Lubricating and similar oils[15]	Mil. bbl.	(NA)	4.5	85.7	2,762.6	80.5	10.6	69.1	1,301.2	58.5
29117 21	Made in petroleum refineries		28	.3	50.9	1,662.5	50.9	4.5	49.6	841.7	45.1
29920 21	Not made in refineries		148	4.2	34.8	1,100.1	30.6	6.1	19.5	459.5	13.4
	Lubricating greases[16]		(NA)	(S)	4.4	288.2	(S)	.6	3.7	125.6	3.1
29117 31	Made in petroleum refineries		18	(S)	1.0	56.3	(S)	.1	2.0	53.1	1.9
29920 31	Not made in refineries	Mil. bbl.	49	.5	3.4	171.9	2.9	.5	1.7	72.5	1.2
	Lubricating oils and greases, n.s.k.	.....	(NA)	(X)	(X)	242.2	(X)	(X)	(X)	100.0	(X)
29117 00	Made in petroleum refineries	.....	(NA)	(X)	(X)	-	(X)	(X)	(X)	-	(X)
	Not made in refineries:										
29920 00	Lubricating oils and greases, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	210.9	(X)	(X)	(X)	83.4	(X)
29920 02	Lubricating oils and greases, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	31.1	(X)	(X)	(X)	26.6	(X)

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[3]	Value (million dollars)	Quantity	Value (million dollars)
	PAVING MIXTURES AND BLOCKS						
2951- --	Total	.....	(X)	(X)	1,518.6	(X)	893.4
29510 --	Paving mixtures and blocks:						
	Liquid asphalt and tar paving materials:						
29510 11	Emulsified asphalt, including liquid additives	Million bbl...	58	(S)	207.4	12.1	72.4
29510 15	Other liquid asphalt and tar paving materials, including cut-backs	Million bbl...	35	(S)	60.0	8.2	49.8
29510 51	Asphalt and tar paving mixtures and blocks, including bituminous or asphaltic concrete, and asphaltic paving cements	.....	303	(X)	874.4	(X)	621.6
29510 98	Other paving mixtures and blocks, except brick, concrete, granite, or stone	.....	19	(X)	68.8	(X)	11.3
29510 00	Paving mixtures and blocks, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(X)	(X)	274.2	(X)	96.3
29510 02	Paving mixtures and blocks, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(X)	(X)	33.8	(X)	42.0
	ASPHALT FELTS AND COATINGS						
2952- --	Total	.....	(NA)	(X)	1,828.6	(X)	902.2
29521 --	Asphalt and tar saturated felts and boards for nonbuilding use	.....	(NA)	(X)	99.5	(X)	34.2
29521 11	Felts for other than building purposes (automotive, etc.)	1,000 s. tons.	6	(S)	47.6	(S)	7.8
29521 31	Asphalt and tar products, except felts, coatings, cements, for nonbuilding use (i.e., automotive, etc.)	1,000 s. tons.	12	*264.3	42.4	(S)	23.8
29521 00	Asphalt and tar saturated felts and boards for nonbuilding use, n.s.k.	.....	(NA)	(X)	9.5	(X)	2.6
29522 --	Roofing asphalts and pitches, coatings, and cements	.....	(NA)	(X)	263.4	(X)	155.3
29522 12	Roofing asphalts	1,000 s. tons.	12	(D)	(D)	2,202.7	82.9
	Asphaltic roofing coatings and cements:						
29522 51	Fibrated asphaltic coatings	Million gal...	23	(S)	60.2	44.2	20.6
29522 55	Nonfibrated asphaltic coatings	↕	17	(S)	21.5	(S)	12.9
29522 61	Asphaltic roofing cements	Million gal...	21	*36.1	50.8	16.2	11.6
29522 98	Other roofing asphalts and pitches, coatings, and cements, including coal tar base coatings, cements, and roofing pitches	.....	15	(X)	(D)	(X)	13.4
29522 00	Roofing asphalts and pitches, coatings, and cements, n.s.k.	.....	(NA)	(X)	D)	(X)	13.9
29523 --	Prepared asphalt and tar roofing and siding products	.....	(NA)	(X)	1,405.3	(X)	690.6
	Asphalt roofing:						
29523 11	Smooth-surface roll roofing, including sanded, talc, mica, and other fine material surfacing, cap sheet, coated base sheet, and coated roofing sheet	Mil. sales sq.	20	20.1	109.1	23.7	50.5
29523 13	Mineral-surfaced roll roofing and cap sheet, including 19-inch selvage edged	↕	20	13.6	89.4	13.8	44.0
	Shingles:						
	Self-sealing strip shingles:						
29523 14	244 pounds or less	↕	19	58.7	799.4	49.3	388.1
29523 15	245 pounds or more	↕	10	4.1	90.3	1.5	17.4
	Standard or regular strip shingles:	↕					
29523 16	239 pounds or less	↕	4	.5	7.7	7.5	57.8
29523 17	240 pounds or more	↕	6	2.3	44.5		
29523 18	Individual shingles, all styles	↕	12	1.7	23.9	3.0	25.8
29523 35	Mineral-surface insulating board base siding (all types and finishes)	Mil. sales sq.	7	.5	6.8	(D)	(D)
29523 53	Saturated felts, asphalt and tar, for built-up roofing systems	1,000 s. tons.	22	824.1	150.3	908.0	81.3
29523 98	Other prepared asphalt and tar products for roofing and siding, including board products and sheathings and felt base roll form and shingle form	.....	16	(X)	57.5	(X)	(D)
29523 00	Prepared asphalt and tar roofing and siding products, n.s.k.	.....	(NA)	(X)	26.3	(X)	3.3
29520 00	Asphalt felts and coatings, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	35.6	(X)	17.5
29520 02	Asphalt felts and coatings, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	24.9	(X)	4.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	PETROLEUM AND COAL PRODUCTS, N.E.C.						
2999- --	Total	.....	(NA)	(X)	494.6	(X)	139.2
29990 --	Petroleum and coal products, n.e.c:						
29990 15	Packaged fuel and fuel briquettes, except wood charcoal briquettes	S. tons.....	4	104.3	16.8	(S)	9.9
29990 91	Calcined petroleum coke	S. tons.....	14	4,498.7	381.8	(X)	120.0
29990 98	Other petroleum and coal products	.....	28	(X)	42.0		
29990 00	Petroleum and coal products, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	42.1	(X)	8.1
29990 02	Petroleum and coal products, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	12.0	(X)	1.2

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]Reporting companies were requested to report quantities of refined petroleum products received in refineries for further processing and to classify items in the same manner as they were billed by shipper, regardless of how refinery (or blending and compounding establishment) would otherwise classify them.

[3]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[4]Represents difference between total shipments (quantity) and receipts (quantity).

[5]Includes all finished gasolines, finished base stocks, and blending agents such as alkylate, polymers (dimer, codimer, etc.), hydropolymers (hydrodimer, hydrocodimer, etc.), cumene, isopetane, isohexane, neohexane, iso-octane, motor benzol (benzene), and other blending agents derived from petroleum. Excludes natural gasoline derived from natural gas.

[6]Detailed statistics for liquefied refinery gases used as chemical raw material are published by U.S. International Trade Commission in "Synthetic Organic Chemicals, U.S. Production and Sales."

[7]Although respondents were requested to report receipts in same manner as billed by shipper, data indicate that items billed as other oils by shipper were sometimes reported as unfinished oils or lubricating oil petroleum base stocks by refinery (or blending and compounding plant) receiving these oils.

[8]Includes such products as cracking stock, unfinished gasoline requiring further distillation, naphtha stocks, slops, wax distillate, and other unfinished petroleum oils. Excludes lubricating oil base stocks, natural gasoline, and cycle condensates.

[9]Net shipments were negative; see footnotes 2, 4, and 7.

[10]Includes light, medium, heavy neutral, and residual stocks.

[11]Includes asphalt and fluxes for paving, roofing, waterproofing, briquetting, mastic, pipe coating, and molding composition; cutback asphalt, emulsified asphalt, and fluxes produced in petroleum refineries; and other asphaltic products, except road oil and fuel oil for heating purposes.

[12]Represents residual asphaltic oil used for surface treatment of roads and highways.

[13]Includes petroleum ether, rubber solvent, mineral spirits (petroleum spirits), varnish makers' and painters' naphtha, high-solvency naphtha, benzol diluent, lacquer diluent, cleaners' naphtha, Stoddard solvent, extraction solvents, and other petroleum distillates shipped as solvents.

[14]Represents amorphous paraffin of melting point not under 145°.

[15]Includes oils for lubricating purposes and such nonlubrication purposes as transformer oil, hydraulic oil, processing oil, quenching oil, and liquid rust preventative.

[16]Includes greases for aviation, automotive, industrial, and railroad uses; launching grease, cutting, drawing, and grinding compounds and paste. Also includes paste rust-preventative compounds and thread compounds.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
29111, GASOLINE		
United States	41,840.4	13,029.6
Middle Atlantic Division:		
New Jersey	1,486.7	609.8
Pennsylvania	2,276.8	778.6
East North Central Division:		
Ohio	2,116.5	700.1
Indiana	1,232.8	582.3
Illinois	4,063.2	1,010.6
West North Central Division:		
Kansas	1,554.7	461.6
West South Central Division:		
Louisiana	4,956.8	1,371.3
Oklahoma	1,788.6	GG
Texas	11,049.4	3,392.2
Mountain Division:		
Montana	425.0	143.8
Wyoming	401.0	139.8
New Mexico	146.2	FF
Utah	359.6	122.8
Pacific Division:		
Washington	910.3	GG
California	4,809.6	1,458.5
29112, JET FUEL		
United States	5,365.3	1,371.6
Middle Atlantic Division:		
Pennsylvania	121.9	FF
East North Central Division:		
Illinois	386.4	100.9
Michigan	15.3	EE
West South Central Division:		
Louisiana	855.1	197.9
Oklahoma	153.5	FF
Texas	1,260.8	359.6
Mountain Division:		
Montana	38.5	CC
Wyoming	33.1	12.5
Utah	43.4	EE
Pacific Division:		
Washington	190.7	50.6
California	1,059.7	294.0
29113, KEROSENE		
United States	1,223.9	372.4
Middle Atlantic Division:		
Pennsylvania	44.5	15.3
East North Central Division:		
Illinois	73.1	26.3
West North Central Division:		
Kansas	10.8	4.9
West South Central Division:		
Louisiana	165.8	79.2
Texas	369.4	123.1
29114, LIGHT FUEL OIL		
United States	17,171.9	4,407.7
Middle Atlantic Division:		
New Jersey	935.1	GG
Pennsylvania	1,023.5	284.3
East North Central Division:		
Ohio	542.4	175.7
Indiana	582.1	224.7
Illinois	1,347.6	293.8
29114, LIGHT FUEL OIL--Con.		
West North Central Division:		
Kansas	610.2	148.4
East South Central Division:		
Alabama	110.5	CC
West South Central Division:		
Louisiana	2,190.0	539.8
Oklahoma	714.6	GG
Texas	4,805.0	1,214.5
Mountain Division:		
Montana	168.2	47.7
Wyoming	197.9	45.2
New Mexico	59.2	CC
Utah	181.6	GG
Pacific Division:		
Washington	329.7	GG
California	1,224.4	299.1
29115, HEAVY FUEL OIL		
United States	6,793.9	1,107.2
Middle Atlantic Division:		
Pennsylvania	323.6	63.8
East North Central Division:		
Ohio	104.7	FF
Indiana	232.6	58.9
Illinois	132.8	32.2
Michigan	76.1	27.4
West North Central Division:		
Kansas	62.9	8.5
East South Central Division:		
Alabama	65.7	CC
West South Central Division:		
Louisiana	660.6	67.4
Oklahoma	71.7	EE
Texas	1,595.7	209.4
Mountain Division:		
Montana	11.0	1.6
Wyoming	93.5	17.0
New Mexico	25.4	CC
Utah	24.9	CC
Pacific Division:		
California	2,255.3	364.7
29116, LIQUEFIED REFINERY GASES (INCLUDING OTHER ALIPHATICS)		
United States	4,500.8	1,152.9
Middle Atlantic Division:		
New Jersey	37.3	FF
Pennsylvania	78.1	26.0
East North Central Division:		
Indiana	6.3	6.9
Illinois	201.3	28.6
West North Central Division:		
Kansas	34.2	9.7
West South Central Division:		
Oklahoma	39.1	CC
Texas	2,583.1	679.4
Mountain Division:		
Montana	4.8	1.6
Wyoming	3.7	AA
Utah	9.5	AA
Pacific Division:		
Washington	11.1	BB
California	127.2	46.9

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
29117, LUBRICATING OILS AND GREASES, MADE IN REFINERIES		
United States	1,718.9	894.8
Middle Atlantic Division:		
Pennsylvania	335.3	GG
West North Central Division:		
Kansas	93.9	FF
West South Central Division:		
Louisiana	51.6	FF
Oklahoma	87.1	46.2
Texas	695.7	247.0
Pacific Division:		
California	125.1	GG
29118, UNFINISHED OILS AND LUBRICATING OIL BASE STOCK		
United States	2,887.8	733.7
Middle Atlantic Division:		
Pennsylvania	268.6	45.5
East North Central Division:		
Illinois	196.4	23.7
West South Central Division:		
Louisiana	412.6	96.2
Oklahoma	51.5	EE
Texas	1,172.0	352.1
Pacific Division:		
California	456.3	GG
29119, ASPHALT		
United States	2,216.7	671.5
East North Central Division:		
Ohio	124.2	49.6
Indiana	124.0	42.3
Illinois	122.0	40.6
West North Central Division:		
Kansas	87.0	26.7
East South Central Division:		
Alabama	70.9	FF
West South Central Division:		
Oklahoma	55.3	21.6
Texas	212.3	50.4
Mountain Division:		
Montana	32.3	12.6
Wyoming	48.6	13.0
Pacific Division:		
California	481.4	75.6
29521, ASPHALT AND TAR SATURATED FELTS AND BOARDS, NONBUILDING		
United States	99.5	34.2
East North Central Division:		
Illinois	28.1	EE
29522, ROOFING ASPHALTS, PITCHES, COATINGS, AND CEMENTS		
United States	263.4	155.3
Middle Atlantic Division:		
New Jersey	27.3	15.4
Pennsylvania	11.5	7.5
East North Central Division:		
Ohio	58.0	27.0
Illinois	23.9	EE
Michigan	2.9	BB
West North Central Division:		
Missouri	9.6	7.0
South Atlantic Division:		
Florida	10.4	CC
East South Central Division:		
Tennessee	4.5	BB
West South Central Division:		
Louisiana	4.3	BB
Texas	47.5	18.6
Pacific Division:		
Oregon	3.8	BB
California	19.5	12.2
29523, PREPARED ASPHALT AND TAR ROOFING AND SIDING PRODUCTS		
United States	1,405.3	690.6
Middle Atlantic Division:		
New Jersey	112.1	60.9
Pennsylvania	66.2	40.7
East North Central Division:		
Ohio	78.0	35.5
Indiana	41.8	EE
Illinois	167.2	106.2
West North Central Division:		
Minnesota	64.0	EE
Missouri	61.5	30.7
South Atlantic Division:		
Georgia	80.7	42.5
East South Central Division:		
Alabama	60.9	FF
West South Central Division:		
Arkansas	42.5	20.5
Texas	106.2	50.7
Pacific Division:		
Oregon	30.3	15.4
California	150.1	60.2

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
2911-	Petroleum refining	88,589.5	74,348.0	62,481.4	52,224.8	30,471.7	24,772.8	19,248.7	15,558.3
29111	Gasoline	41,840.4	36,840.5	31,502.0	24,946.2	15,728.7	13,029.6	9,844.2	7,978.1
29112	Jet fuel	5,365.3	4,228.8	3,701.8	2,935.3	1,637.8	1,371.6	1,100.4	632.5
29113	Kerosene	1,223.9	828.1	791.1	735.6	456.2	372.4	430.5	374.7
29114	Light fuel oil	17,171.9	13,554.4	11,297.6	9,760.8	5,476.4	4,407.7	3,305.7	2,896.3
29115	Heavy fuel oil	6,793.9	5,242.8	4,626.4	3,643.2	1,660.2	1,107.2	566.1	621.8
29116	Liquefied refinery gases (including other aliphatics)	4,500.8	3,604.2	2,909.7	3,026.4	1,430.1	1,152.9	1,135.7	702.9
29117	Lubricating oils and greases, made in refineries	1,718.9	1,638.6	1,443.4	1,501.6	1,060.6	894.8	883.7	784.5
29118	Unfinished oils and lubricating oil base stock	2,887.8	2,194.8	1,612.5	1,419.8	890.7	733.7	613.2	526.2
29119	Asphalt	2,216.7	1,564.1	1,540.8	1,488.5	807.6	671.5	424.2	360.5
29110	Other petroleum products and refinery products, n.s.k.	4,869.8	4,651.7	3,056.0	2,767.4	1,323.4	1,031.4	944.9	680.7
29510	Paving mixtures and blocks	1,518.6	1,229.1	1,203.4	1,167.2	962.2	893.4	529.6	402.9
2952-	Asphalt felts and coatings	1,828.6	1,699.7	1,462.8	1,357.0	1,058.5	902.2	519.4	408.1
29521	Asphalt and tar saturated felts and boards, nonbuilding	99.5	(51.0)	(37.2)	29.4	40.6	34.2	27.5	21.1
29522	Roofing asphalts, pitches, coatings, and cements	263.4	289.1	268.1	258.8	182.6	155.3	101.4	94.4
29523	Prepared asphalt and tar roofing and siding products	1,405.3	1,327.9	1,139.6	1,052.0	828.4	690.6	375.2	338.6
29520	Asphalt felts and coatings, n.s.k	60.5	(31.7)	(18.0)	(17.8)	(6.9)	22.1	15.3	5.4
29920	Lubricating oils and greases, not made in refinery	1,514.4	1,216.5	1,059.0	1,005.3	718.3	642.0	443.4	425.6
29990	Petroleum and coal products, n.e.c	494.6	350.6	253.4	204.1	156.7	139.2	79.6	69.3

n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7a. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 2911, PETROLEUM REFINING					
	Materials, containers, and supplies		(X)	72,062.0	(X)	19,610.8
	Crude petroleum, including field condensate	Million bbl.	5,108.5	60,121.4	4,269.6	15,557.8
131111	Domestic		2,798.5	30,387.8	3,419.9	12,445.9
131112	Foreign		2,310.0	29,733.6	849.7	3,111.9
291181	Foreign unfinished oils (received from foreign countries for further processing)		14.9	202.9	52.8	209.8
	Natural gas liquids:					
132128	Ethane (C_2), at least 80 percent purity		26.1	181.5		
132129	Propane (C_3), at least 80 percent purity		26.7	204.0		
132120	Butane (C_4), at least 80 percent purity		83.6	889.8	[2]325.9	[2]991.2
132124	Gas mixtures (C_2, C_3, C_4)		38.1	223.3		
132125	Isopentane and natural gasoline		73.1	742.9		
132126	Plant condensate		13.5	122.2	45.7	151.2
132127	Other natural gas liquids		42.0	507.1	([2])	([2])
291107	Benzol (benzene) (100 percent C_6H_6)	Million bbl.	.5	20.0	4.4	29.9
	Additives, except animal and vegetable oils:					
280011	Antioxidants, antiknock compounds, and inhibitors	1,000 bbl.	2,500	608.9	(S)	468.4
280012	Other additives, including soaps and detergents		2,630	241.9	3,095	134.9
207001	Animal and vegetable oils	1,000 bbl.	(Z)	4.2	114	5.6
281980	Chemical catalytic preparations		(X)	246.9	(X)	119.8
281238	Caustic soda (sodium hydroxide, 100 percent NaOH)	1,000 s. tons.	*371.0	50.6	330.4	22.1
281931	Sulfuric acid (100 percent H_2SO_4) except spent	1,000 s. tons.	1,365.0	63.6	1,967.2	44.1
	Containers:					
340001	Metal		(X)	73.4	(X)	72.8
260091	Paper and paperboard		(X)	20.7	(X)	14.4
265522	Cans, bodies with combinations of fiber and other materials (foil, plastics, etc.) with metal ends		(X)	83.4	(X)	50.0
970089	Cost of materials received from petroleum refineries and lube manufacturers (represents costs of materials for which quantities are shown in the Receipts column of table 6a)		(X)	4,187.8	(X)	918.6
970099	All other materials and components, parts, containers, and supplies		(X)	2,922.9	(X)	766.5
971000	Materials, containers, and supplies, n.s.k.[3]		(X)	342.6	(X)	53.7
	INDUSTRY 2951, PAVING MIXTURES AND BLOCKS					
	Materials, containers, and supplies		(X)	904.3	(X)	458.3
	Asphalt:					
291192	Paving grade asphalts	Mil. bbl.	**28.5	362.9		
291193	Roofing grade asphalts		(S)	2.1	(S)	180.9
291194	Asphalts other than paving and roofing grade	Mil. bbl.	1.1	14.3		
144201	Sand and gravel	1,000 s. tons.	*53,532.2	159.0	51,000.4	111.6
970099	All other materials and components, parts, containers, and supplies		(X)	113.1	(X)	79.7
971000	Materials, containers, and supplies, n.s.k.[3]		(X)	252.9	(X)	86.1
	INDUSTRY 2952, ASPHALT FELTS AND COATINGS					
	Materials, containers, and supplies		(X)	1,150.4	(X)	497.0
	Asphalt:					
291192	Paving grade asphalts	Mil. bbl.	*1.7	22.3		
291193	Roofing grade asphalts		*29.8	387.9	(S)	164.6
291194	Asphalts other than paving and roofing grade	Mil. bbl.	*1.9	20.3		
266101	Roofing felts (unsaturated), other construction paper, and insulating board	1,000 s. tons.	1,526.2	260.4	1,524.3	124.6
322931	Glass fiber, roving, mats, etc		30.1	24.2	(X)	([4])
329501	Roofing granules		3,013.5	129.8	2,730.8	77.0
144201	Sand and gravel	1,000 s. tons.	*1,177.0	16.4	771.1	6.7
970099	All other materials and components, parts, containers, and supplies		(X)	208.0	(X)	[4]107.7
971000	Materials, containers, and supplies, n.s.k.[3]		(X)	81.1	(X)	16.3

See footnotes at end of table.

Table 7a. **MaterialsConsumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 2992, LUBRICATING OILS AND GREASES					
	Materials, containers, and supplies		(X)	969.3	(X)	362.2
	Additives, except animal and vegetable oils:					
280011	Antioxidants, antiknock compounds, and inhibitors	1,000 bbl	421	41.0	252	15.4
280012	Other additives, including soaps and detergents	↑	793	73.0	505	39.1
207001	Animal and vegetable oils	1,000 bbl	*314	28.3	206	10.0
281980	Chemical catalytic preparations		(X)	3.6	(X)	.3
281238	Caustic soda (sodium hydroxide, 100 percent NaOH)	1,000 s. tons	15.9	1.4	(S)	.3
281931	Sulfuric acid (100 percent H_2SO_4) except spent	1,000 s. tons	3.3	.2	10.9	.3
	Containers:					
340001	Metal		(X)	58.2	(X)	32.8
260091	Paper and paperboard		(X)	6.8	(X)	4.8
265522	Cans, bodies with combinations of fiber and other materials (foil, plastics, etc.) with metal ends		(X)	47.1	(X)	18.3
970089	Cost of materials received from petroleum refineries and lube manufacturers (represents costs of materials for which quantities are shown in the Receipts column of table 6a)		(X)	400.4	(X)	126.5
970099	All other materials and components, parts, containers, and supplies		(X)	139.5	(X)	53.6
971000	Materials, containers, and supplies, n.s.k.[3]		(X)	169.8	(X)	60.8
	INDUSTRY 2999, PETROLEUM AND COAL PRODUCTS, N.E.C.					
	(Data were not collected)					

N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, natural gas liquids were collected in the following format:

a. Natural gasoline, mixed and crude, including drip gasoline: Quantity was 99.2 million bbl, delivered cost was $337.4 million.

b. Liquefied petroleum gases from natural gas, including feedstocks: Quantity was 226.7 million bbl, delivered cost was $653.8 million.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

Table 7b. Fuels Produced and Consumed by Industry 2911, Petroleum Refining: 1958 Through 1977

1977 material code	Fuel		Unit of measure	Quantity	Sales value, f.o.b. plant[1] (million dollars)
291104	Still gas	1977	Mil. cu. ft.	840,559	1,802.5
		1972		(NA)	(NA)
		1967		(NA)	(NA)
		1963		754,154	199.4
		1958	Mil. cu. ft.	671,699	205.8
291151	Residual fuels, including acid sludge	1977	1,000 bbl.	48,042	515.5
		1972		(NA)	(NA)
		1967		(NA)	(NA)
		1963		42,278	75.4
		1958		43,147	95.8
960015	All other fuels (gasoline, distillate oils, liquefied refinery gases, etc.)	1977		73,490	1,303.1
		1972		(NA)	(NA)
		1967		(NA)	(NA)
		1963		30,640	39.7
		1958	1,000 bbl.	17,415	25.0

(NA) Not available.
[1]Manufacturers were instructed to estimate sales value, f.o.b. plant, for fuels produced and consumed in same establishment.

Table 8. Employees Engaged in Construction: 1977

Industry	Total		Establishments reporting construction employees				Response coverage ratio C/A
			Total		Engaged in construction		
	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)	
	A	B	C	D	E	F	G
2911, Petroleum refining	102.5	2,055.3	24.7	514.7	.9	15.8	.24

Note: Establishments in selected industries were instructed to report number of employees, included in total employment, that were engaged in construction of major additions to the plant and utilized as a separate work force. Workers engaged in regular maintenance and repair operations were not included. Coverage Ratio (column G) indicates proportion of industry employment represented by establishments that reported construction employees. Coverage Ratio excludes: (a) construction workers not employed by the establishment (e.g., working under contract or provided by another establishment of the company); (b) establishments that reported having no construction employees; (c) establishments that did not respond to the inquiry, and (d) establishments that were not mailed a form, or from which a form had not been received at the time data were tabulated.

Rubber and Miscellaneous Plastics Products

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DESCRIPTION OF INDUSTRIES

RUBBER AND MISCELLANEOUS PLASTICS PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries

SIC Code	Title
3011	Tires and Inner Tubes
3021	Rubber and Plastics Footwear
3031	Reclaimed Rubber
3041	Rubber and Plastics Hose and Belting
3069	Fabricated Rubber Products, N.E.C.
3079	Miscellaneous Plastics Products

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3011, TIRES AND INNER TUBES

This industry comprises establishments primarily engaged in the manufacture of pneumatic casings, inner tubes, and solid and cushion tires for all types of vehicles, airplanes, farm equipment, and children's vehicles; tiring; and camelback and tire repair and retreading materials. Establishments primarily engaged in retreading tires are classified in service industry 7534, Tire Retreading and Repair Shops.

The total value of shipments for establishments classified in the Tires and Inner Tubes industry amounted to $8,971 million in 1977, an increase of 56 percent from 1972. The value of shipments of products classified as primary to the industry was $8,128 million, an increase of 68 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were passenger car tires for which shipments increased 60 percent, and truck and bus tires, for which shipments increased 78 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $4,347 million in 1977, was 42 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 114.0 thousand employees, an increase of 6 percent from 1972. The leading States in employment were Ohio, Alabama, Tennessee, and Pennsylvania, accounting for 41 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3021, RUBBER AND PLASTICS FOOTWEAR

This industry comprises establishments primarily engaged in the manufacture of all rubber and plastics footwear, waterproof fabric upper footwear, and other fabric upper footwear having rubber or plastic soles vulcanized to the uppers. Establishments primarily engaged in manufacturing rubber, composition, and fiber heels, soles, soling strips, and related shoemaking and repairing materials are classified in industry 3069; and plastic soles and soling strips in industry 3079.

The total value of shipments for establishments classified in the Rubber and Plastics Footwear industry amounted to $517 million in 1977, decrease of 16 percent from 1972. The value of shipments of products classified as primary to the industry was $405 million, decrease of 18 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $272 million in 1977, was 26 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 19.8 thousand employees, a decrease of 60 percent from 1972. The leading States in employment were Connecticut, Georgia, Florida, and Maryland, accounting for approximately 45 percent of the industry's 1977 employment. Data for these States have been withheld to avoid

disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3031, RECLAIMED RUBBER

This industry comprises establishments primarily engaged in reclaiming rubber from scrap rubber tires, tubes, and miscellaneous waste rubber articles by processes which result in devulcanized, depolymerized, or regenerated replasticized products containing added ingredients. These products are sold for use as a raw material in the manufacture of rubber goods with or without admixture with crude rubber or synthetic rubber. Establishments primarily engaged in the assembly and wholesale sale of scrap rubber are classified in trade industries.

The total value of shipments for establishments classified in the Reclaimed Rubber industry amounted to $43 million in 1977, an increade of 44 percent from 1972. The value of shipments of products classified as primary to the industry was $62 million, an increase of 18 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $25 million in 1977, was 62 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 0.9 thousand employees, the same as in 1972.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3041, RUBBER AND PLASTICS HOSE AND BELTING

This industry comprises establishments primarily engaged in the manufacture of rubber and plastics hose and belting, including garden hose. Establishments primarily engaged in the manufacture of rubber tubing are classified in industry 3069, plastic tubing in industry 3079, and flexible metallic hose in industry 3599, Machinery, Except Electrical, N.E.C.

The total value of shipments for establishments classified in the Rubber and Plastics Hose and Belting industry amounted to $1,766 million in 1977, an increase of 73 percent from 1972. The value of shipments of products classified as primary to the industry was $1,541 million, an increase of 74 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $974 million in 1977, was 57 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 34.4 thousand employees, an increase of 8 percent from 1972. The leading States in employment were Ohio, Colorado, Nebraska, and New Jersey, accounting for approximately 55 percent of the industry's 1977 employment. Data for Ohio, Colorado, and Nebraska have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3069, FABRICATED RUBBER PRODUCTS N.E.C.

This industry comprises establishments primarily engaged in the manufacture of industrial and mechanical rubber goods, rubberized fabrics and vulcanized rubber clothing, and miscellaneous rubber specialties and sundries. Establishments primarily engaged in rebuilding and retreading tires are classified in service industry 7534, Tire Retreading and Repair Shops.

The total value of shipments for establishments classified in the Fabricated Rubber Products, N.E.C. industry amounted to $4,565 million in 1977, an increase of 61 percent from 1972. The value of shipments of products classified as primary to the industry was $4,223 million, an increase of 66 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were Automotive molded rubber mechanical goods, for which shipments increased 99 percent, and rubber compounds and mixtures, for which shipments increased 32 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,352 million in 1977, was 50 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 98.5 thousand employees, a decrease of 1 percent from 1972. The leading States in employment were Ohio, Indiana, California, and Massachusetts, accounting for 47 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the

time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3079, MISCELLANEOUS PLASTICS PRODUCTS

This industry comprises establishments primarily engaged in molding primary plastics for the trade and fabricating miscellaneous finished plastics products. Establishments primarily engaged in the manufacture of fabricated plastics products or plastics film, sheet, rod, nontextile monofilaments and regenerated cellulose products, and vulcanized fiber are classified in this industry, whether from purchased resins or from resins produced in the same plant. This industry also includes establishments primary engaged in compounding purchased resins. Establishments primarily engaged in manufacture of artificial leather are classified in industry 2295, Coated Fabrics, Not Rubberized.

The total value of shipments for establishments classified in the Miscellaneous Plastics Products industry amounted to $23,688 million in 1977, an increase of 121 percent from 1972. The value of shipments of products classified as primary to the industry was $23,879 million, an increase of 115 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were unsupported plastics film, sheeting, rods, tubes, and other shapes for which shipments increased 93 percent. Value added by manufacture, at $11,763 million in 1977, was 96 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 453.7 thousand employees, an increase of 31 percent from 1972. The leading States in employment were California, Ohio, Illinois, and New Jersey, accounting for approximately 35 percent of the industry's 1977 employment. Data for California have been withheld to avoid disclosing operations of individual companies. However, establishments counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3011, TIRES AND INNER TUBES																
1977 Census.	127	200	126	114.0	1 832.4	88.3	176.4	1 366.0	4 347.3	4 803.0	8 971.0	289.0	(NA)	1 172.1	96	99
1976 ASM....	(NA)	(NA)	(NA)	103.9	1 363.5	78.8	136.0	954.5	3 533.7	4 010.6	7 713.9	243.8	4 174.3	1 009.8	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	106.1	1 332.3	80.0	152.7	979.5	3 462.8	3 761.8	7 143.1	272.0	4 013.0	1 083.4	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	117.3	1 452.7	89.8	177.8	1 070.4	3 703.3	3 840.4	7 347.6	486.3	3 803.8	1 018.5	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	114.6	1 332.5	88.3	172.8	988.9	3 518.0	3 030.9	6 541.8	374.3	3 361.0	785.7	(NA)	(NA)
1972 Census.	136	206	126	107.5	1 214.1	83.1	168.9	908.1	3 070.8	2 745.1	5 747.1	267.1	3 057.0	768.4	97	99
1971 ASM....	(NA)	(NA)	(NA)	104.8	1 075.2	80.5	157.7	796.9	2 766.8	2 468.4	5 231.9	219.5	2 827.1	699.4	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	103.4	970.7	79.5	149.0	712.9	2 388.6	2 284.1	4 616.4	271.6	2 668.1	686.4	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	102.8	1 002.9	79.5	166.5	753.6	2 304.3	2 443.2	4 716.8	342.3	2 377.6	634.9	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	98.2	913.8	75.8	157.0	686.1	2 078.4	2 240.6	4 241.9	274.2	2 086.6	587.0	(NA)	(NA)
1967 Census.	119	182	110	92.7	774.5	71.4	136.5	573.8	1 823.0	1 895.2	3 733.9	198.8	1 867.5	526.0	95	99
1966 ASM....	(NA)	(NA)	(NA)	93.1	778.7	71.8	149.4	586.9	1 767.7	2 000.4	3 715.8	153.0	(NA)	531.0	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	88.7	719.4	68.2	141.5	536.4	1 607.2	1 818.3	3 381.2	159.5	(NA)	472.8	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	85.8	663.7	66.4	136.6	494.3	1 362.6	1 713.5	3 048.4	132.7	1 473.2	448.9	(NA)	(NA)
1963 Census.	105	155	96	85.3	621.7	66.3	131.8	460.1	1 321.7	1 623.1	2 949.7	112.8	1 375.6	413.2	(D)	99
INDUSTRY 3021, RUBBER AND PLASTICS FOOTWEAR[3]																
1977 Census.	67	84	50	19.8	159.1	16.4	30.0	115.9	272.3	256.2	517.0	11.3	(NA)	140.7	93	99
1976 ASM....	(NA)	(NA)	(NA)	24.6	175.8	21.3	36.5	128.7	309.5	233.9	538.8	14.3	160.9	131.1	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	25.3	176.3	21.8	38.2	128.6	320.1	239.4	565.9	9.5	152.3	123.8	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	28.8	193.9	25.0	46.7	147.6	394.9	259.5	590.0	9.4	150.7	135.8	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	31.8	194.6	27.8	51.9	152.4	338.2	222.7	555.9	11.7	179.4	133.6	(NA)	(NA)
1972 Census.	82	107	74	31.6	182.6	26.5	49.9	137.5	370.3	243.3	600.0	17.7	183.2	124.4	94	99
INDUSTRY 3031, RECLAIMED RUBBER																
1977 Census.	21	21	9	.9	11.8	.7	1.0	8.8	25.2	17.6	42.9	.7	(NA)	3.5	100	62
1976 ASM....	(NA)	(NA)	(NA)	.6	7.4	.5	1.0	5.3	14.8	9.1	23.3	.3	19.7	2.7	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	.8	8.6	.6	1.2	6.2	16.1	11.6	28.1	.9	20.9	3.1	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	1.0	10.2	.8	1.6	7.4	20.1	14.7	34.9	.8	24.0	4.1	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	.8	8.0	.7	1.4	6.1	15.0	10.6	24.9	1.0	24.3	3.1	(NA)	(NA)
1972 Census.	19	20	9	.9	9.1	.8	1.5	6.9	15.6	13.1	29.7	.7	24.9	2.7	96	55
1971 ASM....	(NA)	(NA)	(NA)	1.2	10.6	1.0	1.9	8.1	17.8	14.5	32.1	.7	26.1	3.4	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	1.6	11.8	1.3	2.2	9.0	18.6	21.2	41.2	1.0	31.5	5.3	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	1.6	12.5	1.3	2.5	9.7	22.2	23.0	44.8	1.2	34.6	7.2	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	1.7	13.3	1.4	2.7	10.3	26.0	23.4	48.3	1.5	35.4	6.5	(NA)	(NA)
1967 Census.	19	24	13	1.7	11.8	1.4	2.5	8.9	23.4	19.6	43.8	1.6	36.8	5.4	83	75
1966 ASM....	(NA)	(NA)	(NA)	2.0	14.0	1.6	3.0	10.3	25.3	27.6	52.7	1.3	(NA)	8.0	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	2.0	14.0	1.6	3.1	10.4	26.4	25.5	52.5	1.7	(NA)	7.6	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	1.9	13.2	1.5	3.0	9.9	24.4	20.4	44.4	3.6	39.0	6.7	(NA)	(NA)
1963 Census.	7	13	13	2.0	13.6	1.7	3.1	10.4	27.4	21.7	48.9	1.3	35.7	5.8	(D)	77
INDUSTRY 3041, RUBBER, PLASTICS HOSE AND BELTING[3]																
1977 Census.	102	146	103	34.4	457.4	23.4	45.3	274.9	973.5	800.1	1 765.7	55.3	(NA)	275.4	88	92
1976 ASM....	(NA)	(NA)	(NA)	29.9	356.8	20.8	38.1	210.9	804.3	625.2	1 411.9	53.8	700.5	234.3	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	27.2	307.4	19.4	36.7	196.2	695.1	550.1	1 235.4	80.3	685.3	199.9	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	31.2	335.0	23.3	45.3	223.9	737.9	554.5	1 249.9	71.7	595.1	210.2	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	30.1	307.2	22.1	42.3	202.7	617.9	425.1	1 052.0	33.2	491.8	153.9	(NA)	(NA)
1972 Census.	68	90	73	31.9	309.0	22.6	45.4	200.1	618.7	405.5	1 020.1	31.6	504.1	158.3	85	89
INDUSTRY 3069, FABRICATED RUBBER PRODUCTS, N.E.C.[3]																
1977 Census.	1 127	1 280	621	98.5	1 164.0	77.1	153.3	795.4	2 351.9	2 231.2	4 565.0	135.0	(NA)	510.5	88	90
1976 ASM....	(NA)	(NA)	(NA)	93.2	1 009.7	71.8	143.4	677.3	2 081.0	1 847.0	3 888.1	145.6	1 271.5	460.5	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	90.2	884.1	68.8	135.1	583.8	1 747.9	1 643.3	3 409.1	86.1	1 217.2	423.7	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	105.5	958.5	82.1	162.3	661.0	1 863.4	1 656.3	3 490.2	125.7	1 187.0	465.0	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	109.4	939.3	86.1	168.6	657.2	1 825.1	1 474.4	3 265.3	123.3	1 152.3	409.0	(NA)	(NA)
1972 Census.	965	1 103	605	99.0	808.8	77.4	153.7	559.7	1 573.1	1 273.0	2 830.9	88.5	1 033.0	332.8	84	89

See footnotes at end of table.

Table 1a. Historical Statisitcs for the Industry: 1977 and Earlier Years – Con.

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets		End-of-year inventories (mil. dol.)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (mil.)	Wages (mil. dol.)				New capital expenditures (mil. dol.)	Gross value of fixed assets (mil. dol.)		Specialization (percent)	Coverage (percent)
	INDUSTRY 3079, MISCELLANEOUS PLASTICS PRODUCTS[3]															
1977 Census.	8 824	10 212	4 385	453.7	4 911.7	358.0	704.1	3 281.0	11 763.3	12 113.2	23 688.4	1 154.2	(NA)	2 852.8	94	91
1976 ASM....	(NA)	(NA)	(NA)	375.2	3 828.5	295.7	583.4	2 541.2	9 207.0	9 159.4	18 189.3	859.2	7 344.3	2 188.5	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	335.4	3 213.8	260.4	509.1	2 090.4	7 357.3	7 403.9	14 809.6	691.1	6 738.8	1 943.1	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	377.5	3 252.8	301.6	591.2	2 193.0	8 106.6	7 302.8	15 189.6	763.1	6 121.3	2 051.7	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	385.4	3 030.7	307.0	604.7	2 072.8	7 125.5	5 894.5	12 943.8	761.5	5 908.2	1 506.3	(NA)	(NA)
1972 Census.	6 795	7 698	3 300	346.9	2 641.6	276.4	548.8	1 792.6	6 004.7	4 786.0	10 695.9	654.0	5 333.9	1 202.1	94	88

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results fo a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963,Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistant with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3011, TIRES AND INNER TUBES										
1977 Census..	16 074	(NA)	77	1 998	7.74	53	73	(NA)	38 137	42	24.63
1976 ASM.....	13 123	40 176	75	1 725	7.01	51	69	54	34 010	38	25.98
1975 ASM.....	12 557	37 822	75	1 908	6.41	52	71	56	32 637	38	22.67
1974 ASM.....	12 384	32 427	76	1 979	6.02	52	72	51	31 571	39	20.82
1973 ASM.....	11 627	29 328	77	1 956	5.72	46	66	51	30 698	37	20.35
1972 Census..	11 293	28 437	77	2 032	5.37	47	68	53	28 565	39	18.18
1971 ASM.....	10 259	26 976	76	1 959	5.05	47	67	54	26 400	38	17.54
1970 ASM.....	9 387	25 803	76	1 874	4.78	49	70	57	23 100	40	16.03
1969 ASM.....	9 755	23 128	77	2 094	4.52	51	73	50	22 415	43	13.83
1968 ASM.....	9 305	21 248	77	2 071	4.37	52	74	49	21 164	43	13.23
1967 Census..	8 354	20 145	77	1 911	4.20	50	71	50	19 665	42	13.35
1966 ASM.....	8 364	(NA)	77	2 080	3.92	53	74	(NA)	18 987	44	11.83
1965 ASM.....	8 110	(NA)	76	2 074	3.79	53	75	(NA)	18 119	44	11.35
1964 ASM.....	7 735	17 170	77	2 057	3.61	56	77	48	15 881	48	9.97
1963 Census..	7 288	16 126	77	1 987	3.49	55	76	46	15 494	47	10.02
	INDUSTRY 3021, RUBBER AND PLASTICS FOOTWEAR										
1977 Census..	8 022	(NA)	82	1 836	3.85	49	80	(NA)	13 737	58	9.06
1976 ASM.....	7 146	6 540	86	1 713	3.52	43	76	29	12 581	56	8.47
1975 ASM.....	6 968	6 019	86	1 752	3.36	42	73	26	12 652	55	8.37
1974 ASM.....	6 732	5 232	86	1 868	3.16	43	76	25	13 711	49	8.45
1973 ASM.....	6 119	5 641	87	1 866	2.93	40	75	32	10 635	57	6.51
1972 Census..	5 778	5 797	83	1 883	2.75	40	70	30	11 718	49	7.42
	INDUSTRY 3031, RECLAIMED RUBBER										
1977 Census..	12 943	(NA)	79	1 331	9.13	41	68	(NA)	27 723	46	26.30
1976 ASM.....	12 333	32 833	83	2 000	5.30	39	70	84	24 666	50	14.80
1975 ASM.....	10 750	26 125	75	2 000	5.16	41	71	74	20 125	53	13.41
1974 ASM.....	10 200	24 000	80	2 000	4.62	42	71	68	20 100	50	12.56
1973 ASM.....	10 000	30 375	87	2 000	4.35	42	74	97	18 750	53	10.71
1972 Census..	10 111	27 666	88	1 875	4.60	44	74	83	17 333	58	10.40
1971 ASM.....	8 833	21 750	83	1 900	4.26	45	78	81	14 833	59	9.36
1970 ASM.....	7 375	19 687	81	1 692	4.09	51	80	76	11 625	63	8.45
1969 ASM.....	7 812	21 625	81	1 923	3.88	51	79	77	13 875	56	8.88
1968 ASM.....	7 823	20 823	82	1 928	3.81	48	75	73	15 294	51	9.62
1967 Census..	6 941	21 647	82	1 785	3.56	44	71	84	13 764	50	9.36
1966 ASM.....	7 000	(NA)	80	1 875	3.43	52	78	(NA)	12 650	55	8.43
1965 ASM.....	7 000	(NA)	80	1 937	3.35	48	75	(NA)	13 200	53	8.51
1964 ASM.....	6 947	20 526	78	2 000	3.30	45	75	87	12 842	54	8.13
1963 Census..	6 800	17 850	85	1 823	3.35	44	72	73	13 700	49	8.83
	INDUSTRY 3041, RUBBER, PLASTICS HOSE AND BELTING										
1977 Census..	13 311	(NA)	68	1 934	6.07	45	71	(NA)	28 329	46	21.50
1976 ASM.....	11 933	23 428	69	1 831	5.53	44	69	49	26 899	44	21.11
1975 ASM.....	11 301	25 194	71	1 891	5.34	44	69	55	25 555	44	18.94
1974 ASM.....	10 737	19 073	74	1 944	4.94	44	71	47	23 650	45	16.28
1973 ASM.....	10 205	16 338	73	1 914	4.79	40	69	46	20 528	49	14.60
1972 Census..	9 686	15 802	70	2 008	4.40	39	70	49	19 394	49	13.62
	INDUSTRY 3069, FABRICATED RUBBER PRODUCTS, N.E.C.										
1977 Census..	11 814	(NA)	78	1 988	5.18	48	74	(NA)	23 872	49	15.34
1976 ASM.....	10 833	13 642	77	1 997	4.72	47	73	32	22 328	48	14.51
1975 ASM.....	9 801	13 494	76	1 963	4.32	48	74	35	19 378	50	12.93
1974 ASM.....	9 085	11 251	77	1 976	4.07	47	74	34	17 662	51	11.48
1973 ASM.....	8 585	10 532	78	1 958	3.89	45	73	35	16 682	51	10.82
1972 Census..	8 169	10 434	78	1 985	3.64	44	73	36	15 889	51	10.23

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years – Con.

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3079, MISCELLANEOUS PLASTICS PRODUCTS										
1977 Census..	10 825	(NA)	78	1 967	4.65	51	71	(NA)	25 925	41	16.70
1976 ASM.....	10 203	19 574	78	1 972	4.35	50	71	40	24 538	41	15.78
1975 ASM.....	9 581	20 091	77	1 955	4.10	49	71	45	21 935	43	14.45
1974 ASM.....	8 616	16 215	79	1 960	3.70	48	69	40	21 474	40	13.71
1973 ASM.....	7 863	15 336	79	1 969	3.42	45	68	45	18 488	42	11.78
1972 Census..	7 614	15 330	79	1 985	3.26	44	69	49	17 309	43	10.94

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)[3]	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3011, TIRES AND INNER TUBES													
United States	-	**200**	**126**	**114.0**	**1 832.4**	**88.3**	**176.4**	**1 366.0**	**4 347.3**	**4 803.0**	**8 971.0**	**289.0**	**107.5**	**3 070.8**
New England Division:													
Maine	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	-	4	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Connecticut	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Middle Atlantic Division:														
New York	-	5	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Pennsylvania	-	13	8	7.1	109.6	5.7	11.3	83.7	271.8	345.4	599.4	10.8	FF	(D)
East North Central Division:														
Ohio	-	21	16	21.8	382.8	14.7	29.7	250.8	621.1	819.1	1 372.5	57.1	26.9	758.3
Indiana	-	5	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois	-	7	6	5.3	77.4	4.1	7.7	55.4	229.1	267.8	490.3	9.0	FF	(D)
Michigan	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Wisconsin	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West North Central Division:														
Iowa	-	5	5	4.2	70.6	3.4	6.5	55.2	188.1	188.3	370.9	(D)	FF	(D)
Missouri	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Kansas	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
South Atlantic Division:														
Maryland	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Virginia	-	6	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
North Carolina	-	9	6	5.5	78.2	4.2	8.2	56.7	220.3	233.8	450.1	28.6	2.7	87.8
South Carolina	-	4	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	12	8	2.6	33.7	2.1	4.1	25.3	108.4	111.7	216.6	3.3	EE	(D)
East South Central Division:														
Kentucky	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Tennessee	-	11	8	8.3	129.5	6.8	14.1	101.9	326.3	357.6	668.3	18.8	5.5	179.6
Alabama	-	9	6	9.4	155.5	7.9	16.4	127.8	446.6	395.6	828.7	38.1	8.0	251.8
Mississippi	-	3	3	2.1	31.9	1.7	3.3	25.8	49.4	105.8	155.2	(D)	EE	(D)
West South Central Division:														
Arkansas	-	6	4	2.5	36.0	2.0	3.7	28.3	92.6	103.4	192.9	(D)	EE	(D)
Oklahoma	-	6	6	6.1	91.9	5.1	9.6	72.6	283.4	240.7	515.9	6.7	4.3	102.3
Texas	-	12	7	3.7	55.8	3.0	5.9	44.1	149.5	167.5	316.2	3.9	FF	(D)
Pacific Division:														
California	-	21	13	6.6	105.5	5.1	10.2	80.2	253.8	246.4	479.1	13.8	FF	(D)
INDUSTRY 3021, RUBBER AND PLASTICS FOOTWEAR														
United States	-	**84**	**50**	**19.8**	**159.1**	**16.4**	**30.0**	**115.9**	**272.3**	**256.2**	**517.0**	**11.3**	**31.6**	**370.3**
New England Division:														
Maine	E2	3	3	0.8	6.0	0.7	1.3	5.0	7.7	9.5	18.0	0.4	EE	(D)
New Hampshire	-	5	4	1.4	10.4	1.3	2.1	8.9	14.1	19.2	33.1	(D)	FF	(D)
Massachusetts	E1	9	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Rhode Island	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Connecticut	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Middle Atlantic Division:														
New York	E1	6	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Jersey	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pennsylvania	E4	8	7	1.7	12.3	1.5	2.6	9.9	19.4	15.9	35.1	0.5	2.2	16.8
East North Central Division:														
Ohio	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Indiana	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Illinois	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Wisconsin	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Atlantic Division:														
Maryland	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West Virginia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Georgia	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Florida	-	4	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West South Central Division:														
Arkansas	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California	E1	8	4	0.6	4.0	0.5	0.7	1.5	5.9	3.1	9.5	(D)	BB	(D)
INDUSTRY 3031, RECLAIMED RUBBER														
United States	-	**21**	**9**	**0.9**	**11.8**	**0.7**	**1.0**	**8.8**	**25.2**	**17.6**	**42.9**	**0.7**	**0.9**	**15.6**
East North Central Division:														
Illinois	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central Division:														
Tennessee	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3041, RUBBER AND PLASTICS HOSE AND BELTING														
United States	-	**146**	**103**	**34.4**	**457.4**	**23.4**	**45.3**	**274.9**	**973.5**	**800.1**	**1 765.7**	**55.3**	**31.9**	**618.7**
New England Division:														
Massachusetts	-	4	4	1.2	12.6	0.7	1.5	8.6	27.7	22.3	50.8	1.3	EE	(D)
Connecticut	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Middle Atlantic Division:														
New York	-	7	5	0.7	9.5	0.5	1.0	5.4	20.8	21.7	41.8	(D)	EE	(D)
New Jersey	-	18	14	2.5	35.2	1.7	3.4	21.0	64.0	71.9	135.2	2.6	FF	(D)
Pennsylvania	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East North Central Division:														
Ohio	-	13	12	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	8.6	134.4
Illinois	-	6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Michigan	-	7	4	0.3	3.4	0.3	0.5	2.4	6.8	8.3	15.2	0.2	(NA)	(NA)
Wisconsin	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Minnesota	E2	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Iowa	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Nebraska	E1	4	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Kansas	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Atlantic Division:														
Delaware	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
North Carolina	-	6	5	2.4	28.1	1.9	3.8	20.2	89.3	43.3	132.2	3.4	EE	(D)
South Carolina	-	3	3	0.9	9.6	0.7	1.3	6.9	24.4	22.0	41.0	2.8	BB	(D)
East South Central Division:														
Kentucky	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Tennessee	-	7	5	1.4	13.0	1.2	2.4	9.8	30.4	41.4	70.5	(D)	CC	(D)
West South Central Division:														
Arkansas	-	4	3	0.7	6.6	0.6	1.2	5.0	15.8	13.0	27.7	(D)	BB	(D)
Oklahoma	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Texas	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Colorado	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Arizona	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California	-	15	8	0.6	7.6	0.4	0.8	4.8	16.3	19.3	35.1	0.5	BB	(D)
INDUSTRY 3069, FABRICATED RUBBER PRODUCTS, N.E.C.														
United States	-	**1 280**	**621**	**98.5**	**1 164.0**	**77.1**	**153.3**	**795.4**	**2 351.9**	**2 231.2**	**4 565.0**	**135.0**	**99.0**	**1 573.1**
New England Division:														
Maine	E2	8	3	0.2	1.3	0.2	0.3	1.0	4.0	2.1	6.1	0.1	(NA)	(NA)
New Hampshire	E4	11	6	0.9	9.6	0.7	1.3	6.1	20.3	22.1	42.3	(D)	BB	(D)
Vermont	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Massachusetts	-	62	32	5.1	62.8	3.8	7.8	38.4	126.3	98.1	224.1	7.3	7.7	128.5
Rhode Island	-	14	6	0.8	7.9	0.6	1.1	4.8	13.3	16.6	29.7	0.4	CC	(D)
Connecticut	-	42	20	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Middle Atlantic Division:														
New York	E2	79	24	2.5	27.3	2.0	3.9	19.2	46.5	54.7	101.4	3.9	3.6	56.0
New Jersey	-	69	35	4.6	52.3	3.6	7.1	34.1	113.8	98.5	210.8	4.7	4.5	62.2
Pennsylvania	-	54	28	3.7	43.7	2.7	5.1	28.7	77.9	58.3	135.3	3.3	3.7	52.5
East North Central Division:														
Ohio	-	172	105	22.4	310.1	17.4	34.7	219.7	572.6	525.6	1 092.2	31.5	22.6	387.0
Indiana	-	54	34	10.4	135.8	7.9	15.3	94.9	273.5	264.9	536.4	17.4	11.0	172.5
Illinois	-	77	35	3.4	38.8	2.7	5.3	26.0	67.0	53.6	120.3	3.7	3.2	55.9
Michigan	-	66	33	4.3	50.9	3.4	6.8	34.1	106.6	89.4	194.1	5.1	FF	(D)
Wisconsin	E1	26	15	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West North Central Division:														
Minnesota	E1	24	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Iowa	-	11	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Missouri	-	20	6	0.7	6.0	0.6	1.1	4.4	11.4	35.8	47.0	0.4	BB	(D)
South Dakota	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Nebraska	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Maryland	-	11	5	0.8	8.0	0.7	1.4	6.1	15.6	11.7	27.2	0.4	CC	(D)
Virginia	-	15	9	2.8	28.3	2.1	4.0	16.8	67.4	50.8	118.2	4.1	FF	(D)
West Virginia	E1	11	7	0.8	7.2	0.7	1.4	5.2	16.6	13.0	29.1	0.6	CC	(D)
North Carolina	-	26	7	0.9	8.0	0.8	1.5	6.3	20.5	22.1	42.4	1.5	1.0	17.3
South Carolina	-	13	10	1.4	13.6	1.1	2.3	9.8	29.2	46.6	75.8	2.1	CC	(D)
Georgia	-	34	22	3.4	32.2	2.7	5.6	23.4	66.6	90.8	155.0	7.9	EE	(D)
Florida	E1	24	6	0.8	7.7	0.6	1.3	5.6	18.0	10.9	28.6	0.8	BB	(D)
East South Central Division:														
Kentucky	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Tennessee	-	26	18	3.5	38.2	2.9	6.1	27.6	85.2	173.2	259.0	4.6	2.1	32.1
Alabama	-	13	5	1.9	14.1	1.6	3.1	10.9	48.3	33.3	78.8	0.6	EE	(D)
Mississippi	-	9	4	0.8	6.7	0.7	1.4	5.2	16.8	11.7	28.9	0.6	1.3	16.3

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3069, FABRICATED RUBBER PRODUCTS, N.E.C.—Con.														
West South Central Division:														
Arkansas	-	11	5	1.5	13.6	1.2	2.4	9.7	29.3	34.6	63.3	1.0	EE	(D)
Oklahoma	-	11	3	0.6	3.7	0.5	1.0	2.3	14.2	11.5	25.4	(D)	BB	(D)
Texas	-	50	28	3.3	40.3	2.4	4.8	23.7	67.2	69.6	136.2	5.1	2.3	33.2
Mountain Division:														
Arizona	E1	6	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
Washington	-	9	5	0.4	3.3	0.3	0.5	2.4	8.7	4.6	13.1	0.2	AA	(D)
Oregon	-	13	6	0.4	4.9	0.3	0.7	3.3	10.1	7.8	17.8	0.4	BB	(D)
California	-	174	73	8.1	87.2	6.4	12.6	55.5	190.4	180.6	375.9	14.1	6.6	101.8
INDUSTRY 3079, MISCELLANEOUS PLASTICS PRODUCTS														
United States	-	**10 212**	**4 385**	**453.7**	**4 911.7**	**358.0**	**704.1**	**3 281.0**	**11 763.3**	**12 113.2**	**23 688.4**	**1 154.2**	**346.9**	**6 004.7**
New England Division:														
Maine	-	30	13	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.6	32.1
New Hampshire	-	50	27	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Vermont	-	22	12	1.5	12.6	1.3	2.4	9.4	27.7	25.9	53.8	1.6	EE	(D)
Massachusetts	-	460	224	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	16.8	266.6
Rhode Island	E1	95	35	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.9	99.0
Connecticut	-	207	86	7.4	79.5	5.6	11.0	50.4	160.7	186.1	350.1	26.7	5.7	82.1
Middle Atlantic Division:														
New York	E1	812	327	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	29.5	454.6
New Jersey	E1	655	326	30.8	345.8	24.2	49.4	230.8	795.0	863.4	1 645.2	64.0	26.8	459.2
Pennsylvania	-	490	230	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	21.2	331.0
East North Central Division:														
Ohio	-	653	342	45.3	528.4	36.5	71.8	377.3	1 224.7	1 236.9	2 448.7	121.3	37.2	706.2
Indiana	-	317	163	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	16.4	244.4
Illinois	-	715	350	39.1	439.8	29.7	59.1	276.0	956.7	939.0	1 883.1	78.0	28.5	450.8
Michigan	-	552	277	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	18.3	284.6
Wisconsin	-	246	135	11.8	125.6	9.3	18.2	82.6	302.2	303.4	601.6	27.9	8.2	136.8
West North Central Division:														
Minnesota	-	227	98	9.2	97.5	7.2	13.4	61.2	210.7	216.4	423.6	15.4	6.5	106.5
Iowa	-	92	40	5.5	55.9	4.4	8.6	46.7	193.5	167.8	356.6	13.5	4.5	84.8
Missouri	-	207	93	9.6	93.6	8.0	15.6	66.8	263.2	240.1	498.7	22.5	5.8	108.9
South Dakota	E3	17	6	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Nebraska	E2	42	12	1.0	9.6	0.8	1.6	6.6	21.0	27.6	48.4	3.4	1.3	18.5
Kansas	-	106	42	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
South Atlantic Division:														
Delaware	-	31	23	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Maryland	-	94	37	4.3	46.4	3.3	6.4	30.7	101.3	115.0	214.6	11.3	3.4	53.5
Virginia	-	63	35	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.6	150.3
West Virginia	E1	20	5	0.5	4.7	0.4	0.9	3.2	11.7	13.6	25.0	0.5	0.4	5.5
North Carolina	-	201	109	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	7.9	132.4
South Carolina	-	72	41	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Georgia	-	158	71	5.5	54.0	4.4	8.6	36.3	142.9	195.3	334.8	41.0	3.6	60.0
Florida	E1	378	97	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.3	99.2
East South Central Division:														
Kentucky	-	78	45	6.1	65.5	4.9	9.8	45.7	193.8	218.8	408.5	24.1	FF	(D)
Tennessee	-	144	72	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.9	178.7
Alabama	-	78	29	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Mississippi	-	51	29	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.4	33.8
West South Central Division:														
Arkansas	-	76	30	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Louisiana	E1	54	13	0.9	8.9	0.8	1.4	5.5	22.2	25.0	46.6	8.5	CC	(D)
Oklahoma	-	85	30	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Texas	-	511	192	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	10.6	225.3
Mountain Division:														
Idaho	-	16	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Colorado	-	132	39	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
New Mexico	E4	20	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Arizona	E2	92	16	1.5	15.6	1.1	2.2	9.7	35.5	38.8	73.9	(D)	1.4	20.4
Utah	E2	48	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Nevada	E2	21	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	139	44	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	27.4
Oregon	E1	84	21	1.6	16.6	1.3	2.4	11.1	45.7	44.8	89.0	3.3	0.9	13.2
California	E1	1 542	546	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	36.1	621.5
Hawaii	-	8	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.
[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Tires and inner tubes (SIC 3011)	Rubber and plastics footwear (SIC 3021)	Reclaimed rubber (SIC 3031)	Rubber and plastics hose and belting (SIC 3041)	Fabricated rubber products, n.e.c. (SIC 3069)	Miscellaneous plastics products (SIC 3079)
Primary product specialization ratio[1]	percent	96	93	100	88	88	94
Coverage ratio[2]	do	99	99	62	92	90	91
All establishments	number	200	84	21	146	1 280	10 212
With 1 to 19 employees	do	74	34	12	43	659	5 827
With 20 to 99 employees	do	32	16	6	40	384	3 262
With 100 employees or more	do	94	34	3	63	237	1 123
All employees, average for year	1,000	114.0	19.8	0.9	34.4	98.5	453.7
Payroll for year, all employees	mil. dol.	1 832.4	159.1	11.8	457.4	1 164.0	4 911.7
Production workers:							
Average for year	1,000	88.3	16.4	0.7	23.4	77.1	358.0
March	do	87.8	17.4	0.8	23.4	74.9	344.7
May	do	89.6	17.2	0.6	23.3	76.7	354.1
August	do	89.2	15.0	0.7	23.8	78.1	363.9
November	do	86.5	15.8	0.8	23.1	78.6	368.0
Hours	millions	176.4	30.0	1.0	45.3	153.3	704.1
January to March	do	46.5	8.2	0.3	11.7	37.3	167.9
April to June	do	45.5	7.9	0.2	11.3	38.7	178.2
July to September	do	42.6	6.7	0.2	11.1	38.1	177.1
October to December	do	41.8	7.3	0.2	11.2	39.3	181.0
Wages	mil. dol.	1 366.0	115.9	8.8	274.9	795.4	3 281.0
Cost of materials, etc.	do	4 803.0	256.2	17.6	800.1	2 231.2	12 113.2
Materials, parts, containers, etc., consumed	do	4 049.9	192.9	14.2	627.4	1 917.4	10 991.6
Resales	do	489.5	51.5	-	134.8	176.7	369.2
Fuels consumed	do	113.6	3.6	1.2	17.6	49.8	178.8
Purchased electric energy	do	123.2	4.9	2.2	19.3	59.8	394.7
Contract work	do	26.8	3.4	(Z)	1.0	27.5	178.7
Value of shipments, including resales	do	8 971.0	517.0	42.9	1 765.7	4 565.0	23 688.4
Value of resales	do	575.1	81.2	-	149.8	233.5	474.9
Value added by manufacture	do	4 347.3	272.3	25.2	973.5	2 351.9	11 763.3
Manufacturers' inventories:							
Beginning of year	do	1 015.0	129.0	3.6	267.6	476.6	2 552.0
Finished products	do	498.9	85.8	1.7	134.3	170.5	1 041.1
Work in process	do	142.9	16.3	0.1	49.9	103.1	429.7
Materials, supplies, fuel, etc.	do	373.2	26.8	1.8	83.4	203.0	1 081.2
End of year	do	1 172.1	140.7	3.5	275.4	510.5	2 852.8
Finished products	do	673.3	98.6	1.6	143.2	173.2	1 155.7
Work in process	do	147.8	15.1	0.1	48.9	118.4	503.1
Materials, supplies, fuel, etc.	do	350.9	27.0	1.8	83.2	218.9	1 194.0
Capital expenditures for plant and equipment	do	306.7	12.0	0.8	57.2	148.1	1 239.2
New capital expenditures	do	289.0	11.3	0.7	55.3	135.0	1 154.2
New buildings and other structures	do	38.4	0.9	0.1	15.3	28.2	223.7
New machinery and equipment	do	250.6	10.4	0.6	40.1	106.9	930.5
Used capital expenditures	do	17.7	0.7	0.1	1.8	13.1	85.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.
[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.
[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.
[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.
[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.
[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.
[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.
[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Tires and innertubes (SIC 3011)		Rubber and plastics footwear (SIC 3021)		Reclaimed rubber (SIC 3031)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	18.2	1	0.5	13	-	(X)
Response coverage ratio[2] (percent)	48	(X)	68	(X)	51	(X)
Machinery	62.3	1	5.2	2	(D)	40
Response coverage ratio[2] (percent)	70	(X)	71	(X)	51	(X)
Cost of purchased communication services	8.9	3	.9	5	-	-
Response coverage ratio[2] (percent)	86	(X)	47	(X)	51	(X)
Rental payments	25.2	1	5.1	4	(Z)	50
Buildings and other structures	7.1	3	2.6	9	(Z)	50
Machinery and equipment	18.1	1	2.5	4	(Z)	1
Supplemental labor costs	499.5	1	41.4	2	3.8	1
Legal costs	151.5	1	17.9	1	1.0	2
Voluntary costs	348.0	1	23.5	4	2.8	2
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	919.3	1	40.3	3	4.3	2
New capital expenditures	38.0	1	(0.9)	16	-	(X)
Used capital expenditures	0.2	1	-	(X)	-	(X)
Retirements	3.6	2	0.7	4	0.1	3
End of year	953.8	1	40.5	3	4.3	2
Machinery and equipment:						
Beginning of year	3,313.6	1	115.9	2	23.0	2
New capital expenditures	248.4	1	10.4	2	0.1	9
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(Z)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(Z)	(A)	-	(X)
All other[3]	234.5	9	(10.1)	(A)	0.1	(A)
New machinery and equipment, n.s.k.[4]	(D)	(A)	(D)	(A)	-	(X)
Used capital expenditures	17.4	1	0.7	5	-	(X)
Retirements	80.6	3	8.5	2	-	3
End of year	3,502.2	1	118.5	2	0.5	2
Total gross value of depreciable assets:						
Beginning of year	4,232.8	1	156.2	2	27.4	2
New capital expenditures	286.4	1	11.3	3	0.1	12
Used capital expenditures	17.4	1	0.7	5	-	(X)
Retirements	80.6	3	9.2	2	0.6	3
End of year	4,456.0	1	159.0	2	26.8	2
Depreciation charges during 1977	262.3	1	11.0	2	1.1	3
Buildings and other structures	35.3	1	1.6	3	0.1	2
Machinery and equipment	227.0	1	9.4	2	1.0	3

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Rubber and plastics hose and belting (SIC 3041)		Fabricated rubber products, n.e.c. (SIC 3069)		Miscellaneous plastics products (SIC 3079)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	3.6	4	6.8	14	29.8	6
Response coverage ratio[2] (percent)	82	(X)	61	(X)	57	(X)
Machinery	20.9	3	31.1	7	187.1	5
Response coverage ratio[2] (percent)	78	(X)	60	(X)	61	(X)
Cost of purchased communication services	4.8	7	(11.5)	22	63.5	5
Response coverage ratio[2] (percent)	86	(X)	59	(X)	58	(X)
Rental payments	13.1	4	29.8	4	211.0	4
Buildings and other structures	4.4	10	14.2	6	124.1	4
Machinery and equipment	8.6	3	15.5	4	86.7	6
Supplemental labor costs	106.0	1	247.8	1	896.4	1
Legal costs	37.5	2	97.2	2	428.9	1
Voluntary costs	68.4	1	150.6	2	467.5	1
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	219.3	3	416.9	3	1,982.4	1
New capital expenditures	15.0	4	31.5	11	244.4	7
Used capital expenditures	0.3	1	4.1	10	31.0	13
Retirements	(0.9)	18	(6.5)	15	68.5	6
End of year	233.8	3	446.1	3	2,189.2	1
Machinery and equipment:						
Beginning of year	520.1	2	(1,064.6)	2	6,154.5	1
New capital expenditures	40.9	3	123.2	7	947.4	2
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(2.3)	(A)	(18.8)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(1.8)	(A)	(6.6)	(A)
All other[3]	(38.0)	53	(79.1)	25	644.0	3
New machinery and equipment, n.s.k.[4]	(1.4)	(A)	(39.9)	50	278.0	7
Used capital expenditures	1.3	10	8.5	6	66.3	12
Retirements	16.6	4	40.6	7	343.5	3
End of year	545.7	2	1,155.7	2	6,824.7	1
Total gross value of depreciable assets:						
Beginning of year	739.4	2	(1,481.5)	74	8,136.7	1
New capital expenditures	55.9	2	154.7	7	1,191.8	1
Used capital expenditures	1.6	8	12.6	5	97.3	10
Retirements	17.5	4	47.0	7	412.0	3
End of year	779.5	2	(1,601.7)	80	9,013.8	1
Depreciation charges during 1977	38.6	2	118.2	5	700.3	2
Buildings and other structures	6.3	4	20.9	11	95.8	2
Machinery and equipment	32.3	2	97.2	4	604.5	2

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3011, TIRES AND INNER TUBES												
Total	-	**200**	**114.0**	**1 832.4**	**88.3**	**176.4**	**1 366.0**	**4 347.3**	**4 803.0**	**8 971.0**	**289.0**	**1 172.1**
Establishments with an average of—												
1 to 4 employees	E6	41	0.1	0.9	0.1	0.1	0.7	2.7	4.1	6.8	0.2	0.9
5 to 9 employees	E8	24	0.2	2.3	0.1	0.2	1.6	6.1	7.2	13.2	0.4	1.7
10 to 19 employees	-	9	0.1	1.6	0.1	0.2	1.1	6.0	10.9	16.9	0.1	1.7
20 to 49 employees	-	19	0.6	6.9	0.4	0.9	4.6	28.6	47.5	76.0	0.7	6.8
50 to 99 employees	-	13	1.0	11.2	0.7	1.4	6.8	34.6	102.0	136.5	2.1	13.1
100 to 249 employees	-	25	4.6	49.1	3.8	7.4	35.4	126.9	149.3	270.9	5.7	41.9
250 to 499 employees	-	11	4.0	54.5	3.0	5.9	38.5	130.6	159.7	288.0	9.3	27.6
500 to 999 employees	-	12	8.9	135.4	7.1	14.5	104.4	299.4	358.5	662.0	26.3	65.8
1,000 to 2,499 employees	-	37	(94.6)	(1 570.5)	(73.0)	(145.8)	(1 173.0)	(3 712.5)	(3 963.8)	(7 500.7)	(244.1)	(1 012.7)
2,500 employees or more	-	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	59	0.3	3.3	0.2	0.3	2.4	8.9	9.8	18.7	0.5	2.4
INDUSTRY 3021, RUBBER AND PLASTICS FOOTWEAR												
Total	-	**84**	**19.8**	**159.1**	**16.4**	**30.0**	**115.9**	**272.3**	**256.2**	**517.0**	**11.3**	**140.7**
Establishments with an average of—												
1 to 4 employees	E9	15	(Z)	0.2	(Z)	(Z)	0.1	(S)	0.2	0.5	(Z)	0.1
5 to 9 employees	E8	8	0.1	0.4	0.1	0.1	0.3	0.7	0.5	1.2	(Z)	0.3
10 to 19 employees	E7	11	0.1	1.1	0.1	0.2	0.8	2.1	1.4	3.5	0.1	0.9
20 to 49 employees	E1	5	0.2	1.1	0.1	0.2	0.8	2.4	2.1	4.5	0.1	0.5
50 to 99 employees	E1	11	0.8	5.9	0.7	1.2	4.6	10.1	11.3	22.0	0.4	2.8
100 to 249 employees	-	10	1.6	14.1	1.2	2.1	9.7	31.1	19.8	51.3	1.5	7.3
250 to 499 employees	-	11	3.7	27.1	3.1	5.8	20.1	42.6	37.7	79.7	1.2	12.7
500 to 999 employees	-	8	5.1	37.7	4.5	8.0	31.1	58.5	53.9	114.7	1.5	17.9
1,000 to 2,499 employees	-	5	8.3	71.4	6.5	12.3	48.4	125.7	129.2	239.7	6.5	98.2
Covered by administrative records[2]	E0	27	0.2	1.4	0.2	0.3	1.0	2.3	1.8	4.1	0.1	1.0
INDUSTRY 3031, RECLAIMED RUBBER												
Total	-	**21**	**0.9**	**11.8**	**0.7**	**1.0**	**8.8**	**25.2**	**17.6**	**42.9**	**0.7**	**3.5**
Establishments with an average of—												
1 to 4 employees	E0	6	(Z)	0.1	(Z)	(Z)	0.1	0.1	0.1	0.2	(Z)	(Z)
5 to 9 employees	E8	3	(0.1)	(0.7)	(0.1)	(0.1)	(0.5)	(1.8)	(0.9)	(2.7)	(0.7)	(0.3)
10 to 19 employees	E6	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	5	(0.8)	(11.0)	(0.7)	(0.9)	(8.2)	(23.3)	(16.6)	(40.0)	(D)	(3.2)
50 to 99 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	9	(Z)	0.5	(Z)	(Z)	0.3	1.3	0.8	2.1	(Z)	0.3
INDUSTRY 3041, RUBBER AND PLASTICS HOSE AND BELTING												
Total	-	**146**	**34.4**	**457.4**	**23.4**	**45.3**	**274.9**	**973.5**	**800.1**	**1 765.7**	**55.3**	**275.4**
Establishments with an average of—												
1 to 4 employees	E7	14	(Z)	0.3	(Z)	(Z)	0.2	0.7	0.6	1.3	(Z)	0.2
5 to 9 employees	E1	12	0.1	1.0	0.1	0.1	0.6	3.5	3.5	7.0	(7.2)	1.0
10 to 19 employees	E2	17	0.2	3.3	0.1	0.3	1.6	6.8	6.7	13.2	(D)	2.6
20 to 49 employees	-	25	0.8	9.7	0.6	1.2	6.0	25.0	22.4	47.5	2.2	7.9
50 to 99 employees	-	15	1.1	12.2	0.7	1.5	7.2	30.6	32.3	64.2	0.6	8.3
100 to 249 employees	-	31	4.9	58.9	3.8	7.5	39.6	159.2	151.3	306.0	12.5	63.8
250 to 499 employees	-	20	7.2	87.3	5.5	11.2	60.8	216.7	164.4	371.5	10.7	86.3
500 to 999 employees	-	7	4.8	58.4	3.5	6.5	40.3	162.2	110.7	279.7	(22.1)	39.6
1,000 to 2,499 employees	-	3	(15.2)	(226.5)	(9.0)	(17.0)	(118.8)	(368.7)	(308.2)	(675.1)	(D)	(65.6)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	24	0.1	1.6	0.1	0.2	0.9	3.5	2.8	6.3	0.2	1.0
INDUSTRY 3069, FABRICATED RUBBER PRODUCTS, N.E.C.												
Total	-	**1 280**	**98.5**	**1 164.0**	**77.1**	**153.3**	**795.4**	**2 351.9**	**2 231.2**	**4 565.0**	**135.0**	**510.5**
Establishments with an average of—												
1 to 4 employees	E7	322	0.5	5.9	0.5	0.8	3.9	12.5	14.8	28.4	0.7	3.0
5 to 9 employees	E7	160	1.1	11.9	0.8	1.6	7.9	23.5	25.6	49.0	1.7	5.8
10 to 19 employees	E5	177	2.5	29.0	1.9	3.9	18.5	56.9	57.2	113.7	3.9	12.9
20 to 49 employees	-	220	7.1	80.0	5.6	11.1	51.6	172.4	164.6	336.0	12.9	31.8
50 to 99 employees	-	164	11.8	122.1	9.3	18.0	81.2	268.1	321.9	588.8	13.5	61.1
100 to 249 employees	-	138	22.7	243.7	18.3	35.8	171.9	474.5	459.3	931.8	27.7	103.5
250 to 499 employees	-	68	22.7	251.0	17.6	35.1	166.9	524.9	428.1	952.0	29.1	128.0
500 to 999 employees	-	20	12.8	152.1	9.9	20.4	103.1	276.8	304.7	578.0	14.0	61.1
1,000 to 2,499 employees	-	10	(17.3)	(268.2)	(13.1)	(26.5)	(190.3)	(542.3)	(454.9)	(987.4)	(31.6)	(103.4)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	508	3.0	33.4	2.4	4.7	22.6	64.8	59.7	124.5	3.6	15.1

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3079, MISCELLANEOUS PLASTICS PRODUCTS												
Total	-	**10 212**	**453.7**	**4 911.7**	**358.0**	**704.1**	**3 281.0**	**11 763.3**	**12 113.2**	**23 688.4**	**1 154.2**	**2 852.6**
Establishments with an average of—												
1 to 4 employees	E7	3 004	4.9	52.7	4.7	7.6	34.7	124.9	141.5	277.9	13.7	31.7
5 to 9 employees	E5	1 397	9.4	103.3	7.3	14.4	67.8	228.7	252.5	480.8	23.1	54.7
10 to 19 employees	E2	1 426	19.8	211.4	15.3	29.9	134.6	494.5	550.4	1 038.9	42.8	118.9
20 to 49 employees	-	1 983	62.8	631.2	50.0	96.7	408.5	1 569.2	1 745.4	3 287.2	169.7	362.4
50 to 99 employees	-	1 279	90.2	898.0	72.0	140.3	597.3	2 128.9	2 438.4	4 533.2	213.3	511.2
100 to 249 employees	-	819	125.6	1 323.9	100.3	197.8	904.4	2 988.0	3 310.5	6 261.7	343.6	745.8
250 to 499 employees	-	229	75.7	864.5	58.9	119.1	578.4	2 185.1	2 034.3	4 167.6	166.8	516.3
500 to 999 employees	-	58	37.7	437.4	29.7	60.0	307.8	1 131.7	945.2	2 064.2	92.3	277.2
1,000 to 2,499 employees	-	15	(27.6)	(389.5)	(19.7)	(38.4)	(247.6)	(912.3)	(694.8)	(1 577.1)	(88.9)	(234.7)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	3 466	13.0	137.1	11.0	20.0	90.8	308.7	327.1	635.8	28.1	76.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3011	**Tires and inner tubes:**										
	Entire industry	200	114.0	1 832.4	88.3	176.4	1 366.0	4 347.3	4 803.0	8 971.0	289.0
	Establishments with 75 percent specialization or more	191	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
30111	Passenger car pneumatic tires (casings):										
	Establishments with this product class primary	44	73.9	1 212.0	55.4	110.4	879.3	2 758.9	3 041.8	5 670.6	175.3
	Establishments with 75 percent specialization or more in class	21	27.6	420.2	21.7	43.4	319.6	1 229.3	1 350.8	2 525.8	85.4
30112	Truck and bus pneumatic tires:										
	Establishments with this product class primary	16	25.7	435.3	21.4	43.2	350.5	1 137.6	1 235.3	2 329.2	84.3
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
30113	Other pneumatic tires and all solid tires:										
	Establishments with this product class primary	19	5.2	75.6	4.1	8.1	58.1	192.3	166.8	352.8	12.5
	Establishments with 75 percent specialization or more in class	16	2.2	25.3	1.7	3.4	18.1	65.5	58.6	122.2	(D)
30114	Inner tubes:										
	Establishments with this product class primary	12	4.4	53.7	3.7	7.7	41.3	111.4	101.6	212.9	4.8
	Establishments with 75 percent specialization or more in class	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
30115	Tread rubber, tire sundries and repair materials:										
	Establishments with this product class primary	42	3.7	42.1	2.9	5.5	27.4	131.2	240.3	366.3	6.1
	Establishments with 75 percent specialization or more in class	38	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3021	**Rubber and plastics footwear:**										
	Entire industry	84	19.8	159.1	16.4	30.0	115.9	272.3	256.2	517.0	11.3
	Establishments with 75 percent specialization or more	79	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3031	**Reclaimed rubber:**										
	Entire industry	21	0.9	11.8	0.7	1.0	8.8	25.2	17.6	42.9	0.7
	Establishments with 75 percent specialization or more	20	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3041	**Rubber and plastics hose and belting:**										
	Entire industry	146	34.4	457.4	23.4	45.3	274.9	973.5	800.1	1 765.7	55.3
	Establishments with 75 percent specialization or more	131	26.6	333.8	19.7	38.2	227.1	819.5	587.8	1 402.8	46.4
30411	Rubber and plastics belts and belting, flat:										
	Establishments with this product class primary	30	9.2	145.9	4.6	8.6	58.4	227.3	249.4	471.3	9.7
	Establishments with 75 percent specialization or more in class	19	1.2	15.5	0.8	1.7	9.1	76.1	38.9	111.9	1.8
30412	Other rubber and plastics belts and belting:										
	Establishments with this product class primary	13	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
30413	Rubber hose, mandrel made and all hydraulic:										
	Establishments with this product class primary	23	5.5	70.4	4.2	8.5	51.4	156.1	130.0	293.0	9.5
	Establishments with 75 percent specialization or more in class	17	3.1	36.9	2.4	4.9	26.5	79.0	73.1	155.6	(D)
30414	Rubber hose, long length nonhydraulic:										
	Establishments with this product class primary	7	2.3	23.1	1.9	3.8	17.2	67.9	61.5	126.9	5.7
	Establishments with 75 percent specialization or more in class	2	0.7	7.4	0.5	1.1	5.1	15.1	16.7	31.3	0.7
30415	Rubber and plastics garden hose:										
	Establishments with this product class primary	9	1.1	11.4	0.9	1.8	7.9	29.4	44.1	70.8	1.2
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
30416	Other rubber and plastics hose, n.e.c.:										
	Establishments with this product class primary	33	5.9	70.7	4.4	8.8	48.3	190.6	132.0	322.5	7.5
	Establishments with 75 percent specialization or more in class	24	2.1	25.1	1.5	3.0	15.3	57.8	58.5	115.7	2.7
3069	**Fabricated rubber products, n.e.c.:**										
	Entire industry	1 280	98.5	1 164.0	77.1	153.3	795.4	2 351.9	2 231.2	4 565.0	135.0
	Establishments with 75 percent specialization or more	1 181	80.5	901.2	63.5	125.5	614.8	1 838.4	1 818.6	3 642.1	96.0
30693	Sponge and foam rubber goods:										
	Establishments with this product class primary	71	12.3	183.0	9.5	19.3	128.5	369.2	338.7	705.2	25.1
	Establishments with 75 percent specialization or more in class	54	5.7	67.2	4.3	8.8	44.4	152.2	196.3	347.0	9.7
30694	Rubber floor and wall coverings:										
	Establishments with this product class primary	19	3.4	41.7	2.6	5.3	26.2	87.9	122.8	214.8	2.9
	Establishments with 75 percent specialization or more in class	15	1.5	15.7	1.1	2.2	9.2	43.0	71.7	120.2	(D)
30696	Rubber shoe products, elastomer resin:										
	Establishments with this product class primary	40	5.8	50.4	4.9	9.4	38.2	105.0	129.6	233.2	5.2
	Establishments with 75 percent specialization or more in class	34	5.1	43.0	4.3	8.3	32.8	94.3	116.5	209.4	4.4
30697	Rubber druggist and medical sundries:										
	Establishments with this product class primary	31	7.3	73.1	5.9	11.7	50.7	163.6	122.1	281.6	8.4
	Establishments with 75 percent specialization or more in class	21	4.6	42.1	3.9	7.7	31.6	100.9	81.4	178.9	5.5
30699	Rubber compounds or mixtures:										
	Establishments with this product class primary	24	2.6	35.4	2.0	4.5	23.5	66.3	183.5	248.7	4.6
	Establishments with 75 percent specialization or more in class	16	0.9	13.2	0.7	1.5	7.9	24.9	87.7	112.4	1.3
3069A	Molded rubber mechanical goods:										
	Establishments with this product class primary	215	36.3	441.4	28.0	55.1	298.2	857.8	740.7	1 591.3	44.8
	Establishments with 75 percent specialization or more in class	160	22.3	262.5	17.4	34.4	177.2	507.7	398.5	899.7	27.0
3069B	Extruded lathe cut rubber mechanical goods:										
	Establishments with this product class primary	32	4.2	44.3	3.3	6.7	30.6	83.2	79.4	160.9	4.6
	Establishments with 75 percent specialization or more in class	23	3.0	32.0	2.4	5.0	22.6	61.5	62.2	122.3	3.8
3069C	Other industrial rubber products:										
	Establishments with this product class primary	65	6.0	79.2	4.3	9.1	51.2	180.3	126.3	304.5	11.7
	Establishments with 75 percent specialization or more in class	44	2.2	26.9	1.7	3.5	18.7	68.4	30.8	96.4	3.4
3069D	Rubber coated fabrics and rubber clothing:										
	Establishments with this product class primary	39	4.0	38.7	3.1	6.0	25.3	87.6	82.2	168.0	8.5
	Establishments with 75 percent specialization or more in class	30	2.5	22.3	1.9	3.6	14.9	49.7	43.7	92.8	2.6
3069E	Other rubber goods:										
	Establishments with this product class primary	78	8.7	93.1	7.0	13.9	66.2	194.1	173.6	367.4	11.0
	Establishments with 75 percent specialization or more in class	57	4.7	45.0	3.8	7.5	31.1	100.9	100.3	200.4	7.0

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3079	**Miscellaneous plastics products:**										
	Entire industry	10 212	453.7	4 911.7	358.0	704.1	3 281.0	11 763.3	12 113.2	23 688.4	1 154.2
	Establishments with 75 percent specialization or more	9 745	407.9	4 334.3	324.1	637.1	2 912.1	10 427.4	10 950.8	21 213.4	1 060.1
30791	Unsupported plastics film, sheets, rods, and tubes:										
	Establishments with this product class primary	583	46.3	592.9	34.5	70.1	385.5	1 631.8	1 967.2	3 555.1	167.6
	Establishments with 75 percent specialization or more in class	504	36.3	458.6	27.2	55.4	299.4	1 275.7	1 580.8	2 828.3	145.5
30793	Laminated plastics sheets, rods, and tubes:										
	Establishments with this product class primary	138	17.3	229.8	12.9	27.4	147.6	536.6	635.5	1 169.3	45.9
	Establishments with 75 percent specialization or more in class	107	13.1	178.9	9.6	20.9	114.3	431.5	508.1	937.7	39.6
30796	Plastics building and construction products:										
	Establishments with this product class primary	574	39.2	433.7	29.0	57.0	270.0	1 329.5	1 466.8	2 761.7	106.3
	Establishments with 75 percent specialization or more in class	493	30.1	330.2	22.6	44.5	208.9	1 006.3	1 200.4	2 179.5	89.7
30798	Regenerated cellulosic products, except rayon:										
	Establishments with this product class primary	47	5.7	82.0	4.3	8.8	56.8	212.4	204.3	412.0	11.9
	Establishments with 75 percent specialization or more in class	43	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
30799	Custom compounded purchased resin:										
	Establishments with this product class primary	185	8.6	102.2	6.5	12.7	62.0	254.0	468.0	715.8	30.8
	Establishments with 75 percent specialization or more in class	170	7.2	85.5	5.4	10.6	50.5	209.7	391.6	594.8	28.6
3079A	Other plastics and resin materials, n.e.c.:										
	Establishments with this product class primary	188	6.3	65.4	4.9	10.2	44.2	146.2	188.0	332.5	12.6
	Establishments with 75 percent specialization or more in class	164	5.5	58.0	4.4	9.1	39.3	128.9	170.7	298.0	10.7
3079B	Plastics furniture components and furnishings:										
	Establishments with this product class primary	254	19.1	179.0	15.2	29.8	122.7	453.9	679.9	1 123.0	32.0
	Establishments with 75 percent specialization or more in class	205	14.0	129.0	11.0	21.5	87.6	320.1	490.6	805.0	24.3
3079C	Plastics packaging products:										
	Establishments with this product class primary	670	57.6	616.5	46.5	91.2	430.1	1 451.1	1 280.0	2 715.8	191.5
	Establishments with 75 percent specialization or more in class	579	46.7	495.9	37.9	74.3	348.3	1 167.9	1 042.0	2 194.7	153.2
3079D	Plastics transportation products:										
	Establishments with this product class primary	398	54.1	594.7	44.7	88.6	433.3	1 278.6	1 292.5	2 554.8	137.3
	Establishments with 75 percent specialization or more in class	240	31.8	324.1	26.5	52.3	235.5	688.6	729.7	1 410.5	100.2
3079E	Plastics electrical and electronic products:										
	Establishments with this product class primary	391	36.4	392.3	29.2	57.9	260.9	743.1	620.6	1 343.3	65.3
	Establishments with 75 percent specialization or more in class	216	17.9	179.6	15.0	29.3	129.1	367.4	290.2	653.4	29.0
3079F	Plastics industrial machinery products:										
	Establishments with this product class primary	230	12.8	142.4	10.1	19.5	91.1	308.8	221.9	528.3	24.4
	Establishments with 75 percent specialization or more in class	154	6.7	75.6	5.3	10.4	48.1	165.7	118.9	282.7	14.9
3079G	Plastics dinnerware, tableware, and kitchenware:										
	Establishments with this product class primary	58	10.3	94.2	8.5	16.7	66.9	357.6	188.9	536.3	27.1
	Establishments with 75 percent specialization or more in class	43	8.6	76.9	7.3	14.2	56.1	315.5	161.3	469.1	23.4
3079H	Other plastics products, n.e.c.:										
	Establishments with this product class primary	868	70.5	689.7	55.7	107.2	448.7	1 498.5	1 385.3	2 868.5	144.8
	Establishments with 75 percent specialization or more in class	682	47.5	445.1	38.1	73.6	293.6	1 001.7	972.2	1 957.3	86.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3011	Tires and inner tubes									
	1977	8,971.0	8,047.6	325.8	597.6	96	8,127.6	8,047.6	79.9	99
	1972	5,747.1	4,870.0	174.3	702.8	97	4,898.4	4,870.0	28.4	99
	1967	3,733.9	3,103.4	175.2	455.4	95	3,133.5	3,103.4	30.1	99
3021	Rubber and plastics footwear									
	1977	517.0	402.8	28.8	85.4	93	404.8	402.8	2.0	99
	1972	600.0	490.9	29.0	80.1	94	493.9	490.9	3.0	99
	1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3031	Reclaimed rubber									
	1977	42.9	38.4	-	4.5	100	61.5	38.4	23.1	62
	1972	29.7	28.6	1.1	-	96	52.0	28.6	23.4	55
	1967	43.8	35.4	7.2	1.2	83	47.3	35.4	11.9	75
3041	Rubber and plastics hose and belting									
	1977	1,765.7	1,424.0	185.4	156.3	88	1,541.4	1,424.0	117.2	92
	1972	1,020.1	788.7	133.4	98.0	86	886.0	788.7	97.3	89
	1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3069	Fabricated rubber products, n.e.c.									
	1977	4,565.0	3,789.0	521.8	254.3	88	4,223.2	3,789.0	434.2	90
	1972	2,830.9	2,260.8	436.8	133.3	84	2,538.7	2,260.8	277.9	89
	1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3079	Miscellaneous plastics products									
	1977	23,688.4	21,688.8	1,359.0	640.6	94	23,878.7	21,688.8	2,189.9	91
	1972	10,703.6	9,732.4	616.1	347.4	94	11,094.5	9,732.4	1,362.1	88
	1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Tires and inner tubes (SIC 3011)	Rubber and plastics footwear (SIC 3021)	Reclaimed rubber (SIC 3031)	Rubber and plastics hose and belting (SIC 3041)	Fabricated rubber products, n.e.c. (SIC 3069)	Miscellaneous plastics products (SIC 3079)	Other industries
	Total	(X)	8,971.0	517.0	42.9	1,765.7	4,565.0	23,688.4	(X)
	Primary products	(X)	8,047.6	402.8	38.4	1,424.0	3,789.0	21,688.8	(X)
	Secondary products	(X)	325.8	28.8	-	185.4	521.8	1,359.0	(X)
	Miscellaneous receipts	(X)	597.6	85.4	4.5	156.3	254.3	640.6	(X)
3011-	Tires and inner tubes	8,127.6	8,047.6	(D)	-	(D)	24.6	(D)	5.8
30111	Passenger car pneumatic tires (casings)	4,571.1	(D)	-	-	-	-	-	(D)
30112	Truck and bus pneumatic tires	2,276.6	2,276.6	-	-	-	-	-	-
30113	Other pneumatic tires and all solid tires	660.5	(D)	-	-	(D)	(D)	-	-
30114	Inner tubes, all	230.5	230.5	-	-	-	-	-	-
30115	Tread rubber, tire sundries and repair materials	368.7	343.1	(D)	-	(D)	(D)	(D)	4.5
30110	Tires and inner tubes, n.s.k.	20.2	19.1	-	-	-	(D)	-	(D)
30210	Rubber and plastics footwear	404.8	-	402.8	-	-	.1	.1	1.8
30310	Reclaimed rubber	61.5	(D)	-	38.4	-	(D)	-	-
3041-	Rubber and plastics hose and belting	1,541.4	(D)	-	-	1,424.0	(D)	(D)	39.3
30411	Rubber and plastics belts and belting, flat	260.9	(D)	-	-	233.0	(D)	(D)	(D)
30412	Other rubber and plastics belts and belting	348.4	-	-	-	347.5	(D)	-	(D)
30413	Rubber hose, mandrel made and all hydraulic	253.4	(D)	-	-	245.1	(D)	-	(D)
30414	Rubber hose, long length nonhydraulic	164.9	-	-	-	157.6	(D)	-	(D)
30415	Rubber and plastics garden hose	113.3	-	-	-	(D)	-	(D)	-
30416	All other rubber and plastics hose, n.e.c.	387.4	(D)	-	-	327.0	7.0	(D)	(D)
30410	Rubber and plastics hose and belting, n.s.k.	13.1	-	-	-	(D)	.6	-	(D)
3069-	Fabricated rubber products, n.e.c.	4,223.2	89.8	(D)	-	(D)	3,789.0	81.7	186.7
30693	Sponge and foam rubber goods	584.3	-	(D)	-	-	547.9	(D)	(D)
30694	Rubber floor and wall coverings	170.6	(D)	-	-	(D)	126.7	(D)	(D)
30696	Rubber shoe products, elastomer resin	225.1	-	-	-	-	210.5	(D)	(D)
30697	Rubber druggist and medical sundries	232.0	-	-	-	-	199.0	-	33.0
30699	Rubber compounds or mixtures	246.1	(D)	-	-	-	209.3	(D)	(D)
3069A	Molded rubber mechanical goods	1,305.9	(D)	-	-	25.1	1,225.3	(D)	36.9
3069B	Extruded lathe cut rubber mechanical goods	259.8	(D)	-	-	(D)	248.0	-	6.2
3069C	Industrial rubber products, n.e.c.	262.0	17.1	-	-	24.1	190.1	(D)	(D)
3069D	Rubber coated fabrics and rubber clothing	178.6	(D)	-	-	(D)	144.9	(D)	7.9
3069E	Other rubber goods	455.9	(D)	(D)	-	(D)	407.4	11.1	26.8
30690	Fabricated rubber products, n.e.c., n.s.k.	302.9	(Z)	-	-	.2	279.9	4.2	18.6
3079-	Miscellaneous plastics products	23,878.7	(D)	(D)	-	(D)	232.5	21,688.8	1,891.8
30791	Unsupported plastics film, sheets, rods, and tubes	3,978.0	(D)	-	-	-	(D)	3,301.4	626.1
30793	Laminated plastics sheets, rods, and tubes	1,112.0	-	-	-	-	-	1,096.5	15.5
30796	Plastics building and construction products	2,695.9	(D)	-	-	(D)	1.5	2,468.3	219.5
30798	Regenerated cellulosic products, except rayon	389.2	-	-	-	-	-	376.0	13.2
30799	Custom compounded purchased resins, plastics	699.6	-	-	-	(D)	(D)	663.1	20.2
3079A	Other plastics and resin materials, n.e.c.	424.5	-	-	-	-	(D)	363.0	(D)
3079B	Plastics furniture components and furnishings	1,032.7	-	-	-	-	(D)	1,010.4	(D)
3079C	Plastics packaging products	2,729.5	-	(D)	-	-	(D)	2,537.3	188.5
3079D	Plastics transportation products	2,384.5	(D)	-	-	-	(D)	2,152.9	125.0
3079E	Plastics electrical and electronic products	1,305.3	-	-	-	-	(D)	1,200.1	(D)
3079F	Plastics industrial machinery products	620.1	(D)	-	-	(D)	20.9	552.3	44.6
3079G	Plastics dinnerware, tableware, and kitchenware	608.8	-	-	-	-	-	575.6	33.2
3079H	Other plastics products, n.e.c.	2,941.1	(D)	(D)	-	-	44.1	2,558.2	324.0
30790	Miscellaneous plastics products, n.s.k.	2,957.5	1.1	-	-	-	1.8	2,833.7	120.8
	Other shipments by 4-digit product group:								
2013-	Sausages and other prepared meats	(X)	-	-	-	-	-	(D)	(X)
2047-	Dog, cat, and other pet food	(X)	-	-	-	-	-	-	(X)
2211-	Cotton broad woven fabrics	(X)	-	-	-	6.9	-	(D)	(X)
2221-	Manmade fiber and silk broad woven fabrics	(X)	-	-	-	3.2	.3	(D)	(X)
2257-	Circular knit fabrics	(X)	-	-	-	-	(D)	-	(X)
2291-	Felt goods, except woven felts and hats	(X)	-	-	-	-	(D)	-	(X)
2293-	Paddings and upholstery filling	(X)	-	-	-	-	8.2	(D)	(X)
2294-	Processed textile waste	(X)	-	-	-	-	-	(D)	(X)
2295-	Coated fabrics, not rubberized	(X)	-	-	-	3.0	(D)	(D)	(X)
2381-	Fabric dress and work gloves	(X)	-	-	-	-	(D)	3.7	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Tires and inner tubes (SIC 3011)	Rubber and plastics footwear (SIC 3021)	Reclaimed rubber (SIC 3031)	Rubber and plastics hose and belting (SIC 3041)	Fabricated rubber products, n.e.c. (SIC 3069)	Miscellaneous plastics products (SIC 3079)	Other industries
	Other shipments by 4-digit product group--Con.								
2394-	Canvas and related products	(X)	-	-	-	(D)	-	(D)	(X)
2396-	Automotive and apparel trimmings	(X)	-	-	-	-	(D)	(D)	(X)
2399-	Fabricated textile products, n.e.c.	(X)	-	-	-	-	(D)	(D)	(X)
2431-	Millwork	(X)	-	-	-	-	-	(D)	(X)
2434-	Wood kitchen cabinets	(X)	-	-	-	-	-	(D)	(X)
2435-	Hardwood veneer and plywood	(X)	-	-	-	-	-	(D)	(X)
2499-	Wood products, n.e.c.	(X)	-	-	-	-	-	(D)	(X)
2514-	Metal household furniture	(X)	(D)	-	-	-	-	(D)	(X)
2519-	Household furniture, n.e.c.	(X)	-	-	-	-	-	26.2	(X)
2531-	Public building and related furniture	(X)	(D)	-	-	-	-	(D)	(X)
2542-	Metal partitions and fixtures	(X)	-	-	-	-	-	(D)	(X)
2641-	Coated and glazed paper	(X)	-	-	-	-	(D)	(D)	(X)
2643-	Bags, except textile bags	(X)	-	-	-	-	-	(D)	(X)
2645-	Die-cut paper and board	(X)	-	-	-	-	(D)	(D)	(X)
2649-	Converted paper products, n.e.c.	(X)	-	-	-	-	(D)	(D)	(X)
2654-	Sanitary food containers	(X)	-	-	-	-	-	(D)	(X)
2752-	Commercial printing, lithographic	(X)	-	-	-	-	-	(D)	(X)
2782-	Blankbooks and looseleaf binders	(X)	-	-	-	-	-	(D)	(X)
2819-	Industrial inorganic chemicals, n.e.c.	(X)	-	-	-	-	-	(D)	(X)
2821-	Plastics materials and resins	(X)	-	-	-	-	-	90.8	(X)
2822-	Synthetic rubber	(X)	35.6	-	-	-	9.5	9.3	(X)
2824-	Organic fibers, noncellulosic	(X)	-	-	-	-	(D)	.3	(X)
2931-	Biological products	(X)	-	-	-	-	-	(D)	(X)
2834-	Pharmaceutical preparations	(X)	-	-	-	-	(D)	(D)	(X)
2843-	Surface active agents	(X)	-	-	-	-	-	(D)	(X)
2851-	Paints and allied products	(X)	-	-	-	-	1.0	6.4	(X)
2869-	Industrial organic chemicals, n.e.c.	(X)	(D)	-	-	-	.5	16.3	(X)
2891-	Adhesives and sealants	(X)	(D)	-	-	(D)	16.0	(D)	(X)
2893-	Printing ink	(X)	-	-	-	-	.5	(D)	(X)
2899-	Chemical preparations, n.e.c.	(X)	-	-	-	-	-	(D)	(X)
2952-	Asphalt felts and coatings	(X)	-	-	-	-	-	(D)	(X)
3131-	Boot and shoe cut stock and findings	(X)	-	(D)	-	-	(D)	(D)	(X)
3149-	Footwear, except rubber, n.e.c.	(X)	-	(D)	-	-	(D)	(D)	(X)
3199-	Leather goods, n.e.c.	(X)	-	-	-	(D)	(D)	.3	(X)
3231-	Products of purchased glass	(X)	-	-	-	-	.4	(D)	(X)
3292-	Asbestos products	(X)	-	-	-	-	-	(D)	(X)
3293-	Gaskets, packing, and sealing devices	(X)	(D)	-	-	(D)	(D)	(D)	(X)
3296-	Mineral wool	(X)	-	-	-	-	-	(D)	(X)
3299-	Nonmetallic mineral products, n.e.c.	(X)	-	-	-	-	.4	(D)	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	-	-	-	-	(D)	(X)
3361-	Aluminum foundries	(X)	-	-	-	-	-	(D)	(X)
3369-	Nonferrous foundries, n.e.c.	(X)	-	-	-	-	-	3.1	(X)
3411-	Metal cans	(X)	-	-	-	-	-	(D)	(X)
3421-	Cutlery	(X)	-	-	-	-	-	(D)	(X)
3423-	Hand and edge tools, n.e.c.	(X)	-	-	-	-	-	(D)	(X)
3429-	Hardware, n.e.c.	(X)	(D)	-	-	(D)	(D)	10.6	(X)
3431-	Metal sanitary ware	(X)	-	-	-	-	-	3.8	(X)
3441-	Fabricated structural metal	(X)	-	-	-	-	-	(D)	(X)
3442-	Metal doors, sash, and trim	(X)	-	-	-	-	-	(D)	(X)
3444-	Sheet metal work	(X)	-	-	-	-	(D)	(D)	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	-	-	-	-	-	(D)	(X)
3465-	Automotive stampings	(X)	-	-	-	-	-	(D)	(X)
3466-	Crowns and closures	(X)	-	-	-	-	-	(D)	(X)
3479-	Metal coating and allied services	(X)	-	-	-	-	.2	5.9	(X)
3494-	Valves and pipe fittings	(X)	-	-	-	(D)	-	(D)	(X)
3496-	Miscellaneous fabricated wire products	(X)	-	-	-	-	-	(D)	(X)
3498-	Fabricated pipe and fittings	(X)	-	-	-	(D)	(D)	3.9	(X)
3499-	Fabricated metal products, n.e.c.	(X)	-	-	-	-	-	(D)	(X)
3531-	Construction machinery	(X)	(D)	-	-	-	-	-	(X)
3535-	Conveyors and conveying equipment	(X)	-	-	-	-	-	(D)	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** – Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Tires and inner tubes (SIC 3011)	Rubber and plastics footwear (SIC 3021)	Reclaimed rubber (SIC 3031)	Rubber and plastics hose and belting (SIC 3041)	Fabricated rubber products, n.e.c. (SIC 3069)	Miscellaneous plastics products (SIC 3079)	Other industries
	Other shipments by 4-digit product group--Con.								
3537-	Industrial trucks and tractors	(X)	(D)	-	-	-	-	(D)	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	-	-	-	-	3.1	(D)	(X)
3552-	Textile machinery	(X)	-	-	-	(D)	-	(D)	(X)
3555-	Printing trades machinery	(X)	(D)	-	-	(D)	(D)	(D)	(X)
3559-	Special industry machinery, n.e.c	(X)	-	-	-	-	-	(D)	(X)
3561-	Pumps and pumping equipment	(X)	-	-	-	-	(D)	(D)	(X)
3569-	General industrial machinery, n.e.c	(X)	(D)	-	-	-	-	(D)	(X)
3589-	Service industry machinery, n.e.c	(X)	-	-	-	-	(D)	(D)	(X)
3592-	Carburetors, pistons, rings, and valves	(X)	-	-	-	-	-	(D)	(X)
3599-	Machinery, except electrical, n.e.c	(X)	-	-	-	(D)	(D)	(D)	(X)
3613-	Switchgear and switchboard apparatus	(X)	-	-	-	-	(D)	(D)	(X)
3622-	Industrial controls	(X)	-	-	-	-	-	2.4	(X)
3633-	Household laundry equipment	(X)	-	-	-	-	(D)	-	(X)
3634-	Electric housewares and fans	(X)	-	-	-	-	-	(D)	(X)
3646-	Commercial lighting fixtures	(X)	-	-	-	-	-	(D)	(X)
3648-	Lighting equipment, n.e.c	(X)	-	-	-	-	-	(D)	(X)
3662-	Radio and TV communication equipment	(X)	-	-	-	-	-	(D)	(X)
3674-	Semiconductors and related devices	(X)	-	-	-	-	-	(D)	(X)
3675-	Electronic capacitors	(X)	-	-	-	-	-	10.9	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	-	-	-	-	-	(D)	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	-	-	-	(D)	(D)	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	-	-	-	(D)	(X)
3728-	Aircraft equipment, n.e.c	(X)	-	-	-	-	(D)	(D)	(X)
3764-	Space propulsion units and parts	(X)	-	-	-	-	-	(D)	(X)
3769-	Space vehicle equipment, n.e.c	(X)	-	-	-	-	-	(D)	(X)
3841-	Surgical and medical instruments	(X)	-	-	-	-	(D)	(D)	(X)
3842-	Surgical appliances and supplies	(X)	-	(Z)	-	-	(D)	(D)	(X)
3944-	Games, toys, and children's vehicles	(X)	-	-	-	-	-	19.4	(X)
3949-	Sporting and athletic goods, n.e.c	(X)	(D)	-	-	-	(D)	18.2	(X)
3991-	Brooms and brushes	(X)	-	-	-	-	-	(D)	(X)
3993-	Signs and advertising displays	(X)	-	-	-	-	-	(D)	(X)
3996-	Hard surface floor coverings	(X)	-	-	-	-	-	(D)	(X)
	Miscellaneous receipts:								
93000 00	Contract receipts	(X)	(D)	(D)	(D)	(D)	15.6	106.6	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	(D)	(D)	(D)	4.9	58.7	(X)
99989 00	Resales	(X)	575.1	81.2	-	149.8	233.9	475.4	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3041-	3494 Valves and pipe fittings, except plumbers' brass goods	(D)
	3498 Fabricated pipe and fabricated pipe fittings	(D)
3069-	2295 Coated fabrics, not rubberized	(D)
	2647 Sanitary paper products	(D)
	2649 Converted paper and paperboard products, n.e.c.	6.8
	2891 Adhesives and sealants	(D)
	3293 Gaskets, packing, and sealing devices	(D)
	3494 Valves and pipe fittings, except plumbers' brass goods	(D)
	3555 Printing trades machinery and equipment	(D)
	3585 Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment	(D)
	3714 Motor vehicle parts and accessories	(D)
	3841 Surgical and medical instruments and apparatus	(D)
	3949 Sporting and athletic goods, n.e.c	(D)
	3952 Lead pencils, crayons, and artists' materials	6.5
3079-	2011 Meat packing plants	(D)
	2026 Fluid milk	12.1

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3079-	2241 Narrow fabrics and other smallwares mills	(D)
	2295 Coated fabrics, not rubberized	(D)
	2296 Tire cord and fabric	(D)
	2396 Automotive trimmings, apparel findings, and related products	(D)
	2431 Millwork	18.9
	2499 Wood containers, n.e.c	(D)
	2519 Household furniture, n.e.c	10.5
	2541 Wood partitions	(D)
	2542 Metal partitions, shelving, lockers, and office and store fixtures	6.7
	2591 Drapery hardware and window blinds and shades	(D)
	2631 Paperboard mills	(D)
	2641 Paper coating and glazing	(D)
	2643 Bags, except textile bags	190.9
	2647 Sanitary paper products	(D)
	2649 Converted paper and paperboard products, n.e.c.	25.0
	2651 Folding paperboard boxes	9.9
	2654 Sanitary food containers	111.4
	2655 Fiber cans, tubes, drums, and similar products	8.5

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3079-	2771 Greeting card publishing	(D)
	2821 Plastics materials, synthetic resins, and nonvulcanizable elastomers	396.6
	2824 Synthetic organic fibers, except cellulosic	(D)
	2834 Pharmaceutical preparations	(D)
	2843 Surface active agents, finishing agents, sufonated oils and assistants	(D)
	2844 Perfumes, cosmetics, and other toilet preparations	(D)
	2851 Paints, varnishes, lacquers, enamels, and allied products	5.3
	2869 Industrial organic chemicals, n.e.c	(D)
	2891 Adhesives and sealants	(D)
	2911 Petroleum refining	(D)
	2952 Asphalt felts and coatings	(D)
	3229 Pressed and blown glass and glassware, n.e.c	(D)
	3231 Glass products, made of purchased glass	16.3
	3259 Structural clay products, n.e.c	(D)
	3261 Vitreous china plumbing fixtures and china and earthenware fittings and bathroom accessories	(D)
	3291 Abrasive products	(D)
	3292 Asbestos products	(D)
	3369 Nonferrous foundries (castings), n.e.c	25.3
	3412 Metal shipping barrels, drums, kegs, and pails	10.9
	3429 Hardware, n.e.c	(D)
	3442 Metal doors, sash, frames, molding, and trim	25.9
	3443 Fabricated plate work (boiler shops)	(D)
	3444 Sheet metal work	8.9
	3452 Bolts, nuts, screws, rivets, and washers	(D)
	3465 Automotive stampings	(D)
3079-	3466 Crowns and closures	(D)
	3469 Metal stampings, n.e.c	(D)
	3471 Electroplating, plating, polishing, anodizing and coloring	(D)
	3479 Coating, engraving, and allied services, n.e.c.	(D)
	3496 Miscellaneous fabricated wire products	(D)
	3497 Metal foil and leaf	8.0
	3499 Fabricated metal products, n.e.c	(D)
	3524 Garden tractors and lawn and garden equipment	(D)
	3541 Machine tools, metal cutting types	(D)
	3544 Special dies and tools, die sets, jigs and fixtures, and industrial molds	9.3
	3569 General industrial machinery and equipment, n.e.c.	(D)
	3573 Electronic computing equipment	(D)
	3579 Office machines, n.e.c	(D)
	3585 Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment	(D)
	3634 Electric housewares and fans	(D)
	3643 Current-carrying wiring devices	(D)
	3651 Radio and television receiving sets, except communication types	(D)
	3678 Connectors, for electronic applications	(D)
	3679 Electronic components, n.e.c	10.7
	3699 Electrical machinery, equipment, and supplies, n.e.c	(D)
	3728 Aircraft parts and auxiliary equipment n.e.c	(D)
	3841 Surgical and medical instruments and apparatus	(D)
	3861 Photographic equipment and supplies	59.4
	3944 Games, toys, and children's vehicles; except dolls and bicycles	(D)
	3949 Sporting and athletic goods, n.e.c	13.0
	3991 Brooms and brushes	(D)
	3993 Signs and advertising displays	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	TIRES AND INNER TUBES						
3011- --	Total	.....	(NA)	(X)	8,127.6	(X)	4,898.4
30111 --	Passenger car pneumatic tires (casings)	Million tires.	(NA)	(NA)	4,571.1	[3]198.5	[3]2,860.0
30111 12	Radial		12	(NA)	2,458.4		
30111 15	Other		14	110.6	2,112.6		
30112 --	Truck and bus tires, including off-the-highway pneumatic tires		(NA)	36.4	2,276.6	35.7	1,282.1
30112 12	Radial		8	2.0	225.1		
30112 15	Other	Million tires.	12	34.4	2,051.5		
30113 --	Other pneumatic tires and all solid tires	.....	(NA)	(X)	660.5	(X)	381.1
30113 09	Motorcycle pneumatic tires (casings)	Million tires.	4	.5	8.7	([3])	([3])
30113 11	Aircraft		5	(NA)	([4])	.6	37.4
30113 12	Mobile home		5	1.5	29.0	2.3	29.0
30113 14	Tractor and implement (farm and industrial)		11	5.8	376.6	5.8	182.6
30113 16	Industrial and utility, including garden		8	7.9	91.4	22.2	71.5
30113 17	Bicycle casings and single tube tires		1	(NA)	([4])		
	Solid tires:						
30113 33	Industrial and highway	Million tires.	12	.9	42.4	1.3	32.4
30113 35	Bogie, idler, and support rollers	Millions	1	(NA)	[4]64.9	(S)	([5])
	Other solid and semipneumatic:						
30113 41	2.00 inch or more, except hand lawnmower, baby carriage, tricycle, juvenile, etc	Million tires.	5	9.7	12.3	(S)	6.4
30113 51	Less than 2.00 inch, including hand lawnmower, baby carriage, tricycle, juvenile, etc	Million tires.	10	**79.4	35.0	49.5	14.7
30113 00	Other pneumatic tires and solid tires, n.s.k	.....	(NA)	(X)	.2	(X)	[5]7.1
30114 --	All inner tubes	.....	(NA)	(NA)	230.5	(X)	146.7
30114 21	Passenger car and motorcycle	Million tubes.	13	19.7	47.8	28.0	41.6
30114 23	Truck and bus, including off-the-highway		12	22.2	134.3	22.5	76.1
30114 24	Aircraft		2	(NA)	([6])	([7])	([7])
30114 25	Tractor and implement (farm and industrial)		9	3.3	29.6	2.5	13.6
30114 26	Industrial and utility, including garden		7	(NA)	[6]18.8	[7]18.3	[7]15.4
30114 27	Bicycle	Million tubes.	1	(NA)	([6])		
30114 00	All inner tubes, n.s.k	.....	-	-	-	-	-
30115 --	Tread rubber, tire sundries, and repair materials	.....	(NA)	(X)	368.7	(X)	217.0
	Tread rubber (camelback), including slab rubber for use in automatic tread rubber extruding machines	Million lb	28	523.5	235.2	562.6	154.3
30115 31	Tire flaps	Millions	8	14.8	42.2	11.0	19.0
30115 39	Other tire sundries, repair materials, and tiring	Million lb	26	*73.1	85.2	(S)	43.7
30115 00	Tread rubber, tire sundries, and repair materials, n.s.k	.....	(NA)	(X)	6.1	(X)	
30110 00	Tires and inner tubes, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	1.5	(X)	7.2
30110 02	Tires and inner tubes, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	18.7	(X)	4.3

1977 product code	Product	Unit of measure	1977		
			Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity	Value (million dollars)
	RUBBER AND PLASTICS FOOTWEAR				
3021- --	Total	.....	(NA)	(X)	404.8
30210 --	Shoes with sole vulcanized to fabric upper and rubber and plastics protective footwear:				
	As reported in census of manufactures	Mil. pairs..	69	(X)	404.8
	As reported in Current Industrial Reports, MA-31A, Footwear	.....	(NA)	106.6	404.1
	Shoes with sole vulcanized to fabric upper:				
30210 01	Men's (size 6 and over)	Mil. pairs..	(NA)	32.1	138.7
30210 03	Youths' and boys' (size 12 1/2 to 6)		(NA)	20.9	64.8
30210 05	Women's and misses' (size 12 1/2 and over)		(NA)	24.3	87.1
30210 07	Children's, infants', and babies' (size 0 to 12)		(NA)	12.0	24.2
	Protective footwear, rubber:				
30210 11	Boots		(NA)	6.5	40.3
30210 13	Lumberman and pacs		(NA)	.9	8.5
30210 15	Artics and gaiters		(NA)	3.6	17.9
30210 17	Light and heavy rubbers		(NA)	2.3	8.0
30210 19	Other rubber footwear, including beach and shower slippers		(NA)	1.7	5.7
30210 21	Protective footwear, plastics	Mil. pairs..	(NA)	2.3	8.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1972 product code	Product	Unit of measure	Production for all purposes	1972 Product shipments: Quantity	1972 Product shipments: Value (million dollars)
	RUBBER AND PLASTICS FOOTWEAR				
3021- --	Total	.....	(X)	(X)	493.9
30211 --	Rubber and plastics protective footwear	.....	(X)	(X)	80.1
	Protective footwear:				
30211 21	Boots	Mil. pairs..	5.0	5.0	29.6
30211 31	Lumberman and pacs	.....	1.8	2.1	10.5
	Artics and gaiters:				
30211 43	Male	.....	(S)	(S)	14.6
30211 47	Female	.....	(S)	(S)	14.0
30211 51	Light and heavy rubbers	Mil. pairs..	(S)	(S)	8.0
30211 53	Protective footwear, unlined, single film	.....	(X)	(X)	3.5
30212 --	Rubber and plastics shoes, slippers, and other footwear, n.e.c.	.....	(X)	(X)	406.2
	Shoes and slippers with sole vulcanized or molded to fabric upper:				
	Hi-wall:				
30212 02	Male	Mil. pairs..	63.6	62.4	158.7
30212 04	Female	.....	18.5	18.4	32.7
	Lo-wall:				
30212 06	Male	.....	34.6	34.8	92.4
30212 08	Female	Mil. pairs..	36.1	36.1	74.6
30212 17	Slippers primarily intended for indoor household use	.....			
30212 98	Other rubber and plastics footwear, including beach and shower slippers	.....	(X)	(X)	47.8
30210 00	Rubber and plastics footwear, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(X)	(X)	4.1
30210 02	Rubber and plastics footwear, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(X)	(X)	3.5

1977 product code	Product	Unit of measure	1977 Number of companies with shipments of $100,000 or more	1977 Product shipments[1]: Quantity	1977 Product shipments[1]: Value (million dollars)	1972 Product shipments: Quantity	1972 Product shipments: Value (million dollars)
	RECLAIMED RUBBER						
3031- --	Total	.....	(NA)	(X)	61.5	(X)	52.0
30310 11	Reclaimed rubber, any vulcanizable material except reclaimed residue or mud derived from processing or treatment of natural or synthetic (chemical) vulcanized scrap rubber	Million lb....	13	317.6	57.6	(S)	49.9
30310 00	Reclaimed rubber, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	3.9	(X)	2.1
30310 02	Reclaimed rubber, n.s.k., typically for establishments with less than 20 employees (see note)	.....					
	RUBBER AND PLASTICS HOSE AND BELTING						
3041- --	Total	.....	(NA)	(X)	1,541.4	(X)	886.0
30411 --	Rubber and plastics belts and belting, flat	.....	(NA)	(X)	260.9	(X)	157.6
	Conveyor and elevator:						
30411 03	Light weight	Million lb....	18	37.9	60.5	104.5	98.0
30411 05	Heavy duty		19	**117.2	174.1		
30411 13	Transmission, flat		13	**8.3	16.7	14.8	24.7
30411 16	Other flat rubber and plastics belts and belting	Million lb....	10	**6.3	9.3	(S)	34.9
30411 00	Rubber and plastics belts and belting, flat, n.s.k.	.....	(NA)	(X)	.3	(X)	-
30412 --	Rubber and plastics transmission belts and belting, other than flat	.....	(NA)	(X)	348.4	(X)	204.0
30412 25	Motor vehicles	Millions.....	5	170.4	148.9	91.9	78.3
30412 31	Industrial, except fractional		8	36.8	109.0	25.2	61.5
30412 41	Agricultural, except fractional		6	5.6	23.8	7.0	17.7
30412 51	Fractional horsepower		7	50.3	47.3	26.1	27.1
30412 89	Other rubber and plastics belts and belting, other than flat	Millions.....	8	**10.8	19.2	13.8	15.1
30412 00	Rubber and plastics transmission belts and belting, other than flat, n.s.k.	.....	(NA)	(X)	.2	(X)	4.3

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	RUBBER AND PLASTIC HOSE AND BELTING--Con.						
30413 --	Rubber hose, mandrel made, and all hydraulic	Million lb	(NA)	(X)	253.4	(X)	143.5
	Textile:						
30413 12	Hydraulic		12	23.7	38.7	16.2	24.6
30413 14	Other		14	**16.9	43.6	26.4	28.2
	Wire:						
30413 16	Hydraulic		13	**89.8	136.9	54.6	51.0
30413 18	Other	Million lb	15	**18.5	33.2	(S)	39.7
30413 00	Rubber hose, mandrel made, and all hydraulic, n.s.k.		(NA)	(X)	.9	-	-
30414 --	Rubber hose, long length nonhydraulic, except garden		(NA)	238.6	164.9	(X)	84.8
30414 51	Textile	Million lb	17	238.6	164.9	97.2	65.0
30414 53	Wire	Million lb	1			12.4	19.8
30414 00	Rubber hose, long length nonhydraulic, except garden, n.s.k.		-	-	-	-	-
30415 --	Rubber and plastics garden hose		(NA)	220.9	113.3	(X)	56.3
30415 61	Garden hose, plastics, including perforated sprinkler		13	176.1	88.3	(X)	32.7
30415 63	Garden hose, rubber	Million lb	5	44.8	25.0	69.6	23.6
30415 00	Rubber and plastics garden hose, n.s.k.		-	-	-	(X)	(X)
30416 --	All other rubber and plastics hose, n.e.c.		(NA)	(X)	387.4	(X)	237.0
	Wrapped reinforced:						
	Handbuilt:						
30416 33	Wire	Million lb	21	**11.6	38.5	17.7	26.9
30416 35	Nonwire		15	*14.9	33.5	(S)	11.2
30416 39	Machine		17	24.4	39.8	20.8	19.9
	Circular woven jacket:						
30416 42	Single jacket		12	36.3	46.4	42.2	33.1
30416 44	Double jacket		10	*19.5	25.6	44.1	28.4
30416 63	Braided or loomed, helical reinforced	Million lb	12	**18.6	41.9	16.8	18.7
30416 74	All other rubber hose, n.e.c.		17	**55.9	83.9		
	All other plastics hose, n.e.c.:					(X)	90.1
30416 82	Hydraulic		7	**17.3	30.5		
30416 84	Nonhydraulic		13	*61.1	44.2		
30416 00	All other rubber and plastics hose, n.e.c., n.s.k.		(NA)	(X)	3.1	(X)	8.7
30410 00	Rubber and plastics hose and belting, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	6.7	(X)	2.8
30410 02	Rubber and plastics hose and belting, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	6.3	(X)	(X)
	FABRICATED RUBBER PRODUCTS, N.E.C.						
3069- --	Total		(NA)	(X)	4,223.2	(X)	2,538.7
30693 --	Sponge and foam rubber goods		(NA)	(X)	584.3	(X)	350.1
	Latex foam:						
30693 17	Automotive seating, interior padded trim, and insulation	Million lb	8	63.9	142.5	(S)	(8)
30693 23	Upholstery (sheet and slab stock)	Million lb	8	**10.2	16.5	30.1	22.3
30693 51	Carpet and rug cushions	Mil. sq. yd.	12	118.7	99.6	87.3	49.6
30693 68	Other latex foam products, including clothing, insulation, and padding, hospital padding, and topper pads	Million lb	16	101.1	58.8	(S)	898.6
	Chemically blown sponge:						
	Open cell:						
30693 73	Carpet and rug cushions	Mil. sq. yd.	5	74.4	58.7	95.2	60.1
30693 74	Automotive	Million lb	3	35.9	27.9	22.1	22.5
30693 75	Other		12			28.4	11.8
	Closed cell:						
30693 77	Automotive	Million lb	11	60.1	89.2	36.4	42.7
30693 82	Appliances, air conditioning, and refrigeration		4	(S)	18.0		
30693 83	Construction		5	(S)	10.8	(S)	32.2
30693 84	Other		16	*16.9	48.4		
30693 00	Sponge and foam rubber goods, n.s.k.		(NA)	(X)	13.9	(X)	10.3
30694 --	Rubber floor and wall coverings		(NA)	(X)	170.6	(X)	98.4
	Mats, mattings, and stair treads:						
30694 21	Rolls	Mil. sq. yd.	8	7.5	11.0	10.9	14.0
	Individual mats:						
30694 23	Automotive		12	**51.2	65.8	(S)	37.3
30694 25	All other, including stair treads		16	(S)	33.0	(S)	22.1
30694 26	Other floor and wall coverings, including cove base, wainscotting, etc	Mil. sq. yd.	10	**71.4	60.8	(S)	20.2
30694 00	Rubber floor and wall coverings, n.s.k.		(NA)	(X)	-	(X)	4.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	FABRICATED RUBBER PRODUCTS, N.E.C.--Con.						
3069A --	Molded rubber mechanical goods	.....	(NA)	(X)	1,305.9	(X)	(NA)
3069A 11	Automotive	Million lb...	116	(S)	620.8	(S)	311.4
3069A 12	Transportation, other than automotive, including recreational vehicles and equipment		49	(S)	102.3	(S)	23.1
3069A 13	Appliances: Household and commercial (gas and electric)		48	(S)	45.3		
3069A 14	Oil and gas field machinery and equipment		24	(S)	45.6		
3069A 15	Off highway machinery and equipment, including construction, farm, mining, lawn and garden, but not including tires		47	(S)	64.5	(NA)	395.9
3069A 16	Other molded goods		175	(S)	404.9		
3069A 00	Molded rubber mechanical goods, n.s.k.		(NA)	(X)	22.5	(X)	(NA)
3069B --	Extruded and lathe cut rubber mechanical goods		(NA)	(X)	259.8	(X)	(NA)
	Extrusions:						
3069B 11	Automotive, except tubing		23	(S)	73.0	72.6	36.9
3069B 12	Appliances: Household and commercial (gas and electric)		13	**21.1	17.5	(9)	(9)
	Tubing:						
3069B 13	Automotive		13	43.3	43.1	57.2	34.2
3069B 14	Other, including medical and surgical		29	(S)	29.0		
3069B 19	Other, extrusions		49	(S)	46.8	959.8	948.2
	Lathe cut:						
3069B 21	Automotive		14	*10.0	17.5	(S)	8.9
3069B 29	Other	Million lb...	27	(S)	31.0	(S)	17.9
3069B 00	Extruded and lathe cut rubber mechanical goods, n.s.k.	.....	(NA)	(X)	1.9	(X)	(NA)
3069C --	Industrial rubber products, n.e.c., excluding rubber hose and belting, mats, and matting	.....	(NA)	(X)	262.0	(X)	(NA)
3069C 11	Pressure sensitive tape, including friction	Million lb...	6	(S)	11.3	(S)	16.4
3069C 12	Roll covering, including all industry rolls, except graphic arts	.....	32	(X)	72.5	(X)	39.4
3069C 13	Fuel cells	.....	4	(X)	35.5	(X)	18.4
	Sheet rubber linings and rubber film:						
3069C 21	Film, vulcanized (under 10 mils thick)	Mil. sq. yd..	2	**19.1	56.9	(S)	7.6
3069C 22	Sheet rubber, vulcanized (10 mils thick and over)		26				
3069C 24	Vulcanizable elastomeric linings	Mil. sq. yd..	16	**13.8	13.7	(S)	20.2
3069C 39	Other, including jar rings	.....	24	(X)	60.0	(X)	48.9
3069C 00	Industrial rubber products, n.e.c., excluding rubber hose and belting, mats, and matting, n.s.k.	.....	(NA)	(X)	12.1	(X)	(NA)
30696 --	Rubber shoe products, elastomer resin soles	.....	(NA)	(X)	225.1	(X)	154.5
30696 11	Heels	Million pairs	15	**68.6	27.3	(S)	24.7
30696 31	Soles	Million pairs	25	**90.9	74.5	(S)	38.7
30696 51	Soling slabs and top lift sheets	Mil. sq. ft..	17	(S)	79.1	(S)	58.2
30696 61	Rubber sole and heel combination	Million pairs	10	27.3	39.6	(S)	16.6
30696 00	Rubber shoe products, elastomer resin soles, n.s.k.	.....	(NA)	(X)	4.6	(X)	16.3
	FABRICATED RUBBER PRODUCTS, N.E.C.--Con.						
30697 --	Rubber druggist and medical sundries, including household gloves	.....	(NA)	(X)	232.0	(X)	116.8
30697 11	Water bottles, fountain syringes, and combinations	Thousand gross	3	(NA)	(10)	896.5	19.7
30697 31	Nipples and pacifiers	Thousand gross	3				
	Gloves, including rubberized:						
30697 51	Household	Thousand dozen pairs.	9	(S)	23.6	2,954.1	19.9
30697 61	Surgical	Thousand dozen pairs.	11	36,541.0	83.7	13,651.7	36.2
30697 75	Prophylactics	Thousand dozen	4	64,059.5	40.2	(S)	21.9
30697 76	Diaphragms, separate and in kits	Thousands.....	3	4,348.8	1.9		
30697 78	Other, including ice bags and caps	.....	14	(X)	1079.0	(X)	19.1
30697 00	Rubber druggist and medical sundries, n.s.k.	.....	(NA)	(X)	3.6		
3069D --	Rubber coated fabrics and rubber clothing	.....	(NA)	(X)	178.6	(X)	(NA)
	Rubber coated fabrics:						
3069D 14	Garment fabrics	Mil. sq. yd...	4	*12.2	5.2	(S)	2.9
3069D 16	Footwear fabrics		4	(S)	31.7	(S)	7.0
3069D 17	Protective covering fabrics		10			(S)	26.6
3069D 18	Inflatable fabrics		5	3.2	9.8	(S)	1.9
3069D 19	Other coated fabrics, including automotive and furniture upholstery, and hospital and crib sheeting	Mil. sq. yd...	15	(S)	55.3	(S)	29.5
	Rubber clothing:						
3069D 41	Industrial rubber gloves	Thousand dozen pairs.	13	3,447.2	37.3	(S)	23.2
3069D 55	Bathing and shower caps	Thousand gross	3	(X)	31.8	(S)	1.8
3069D 58	Other rubber clothing (rainwear, aprons, dress shields, baby pants, etc.)	.....	12			(X)	12.9
3069D 00	Rubber coated fabrics and rubber clothing, n.s.k.	.....	(NA)	(X)	7.5	(X)	(NA)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	FABRICATED RUBBER PRODUCTS, N.E.C.--Con.						
3069E --	Other rubber goods	.....	(NA)	(X)	455.9	(X)	(NA)
	Hard rubber mechanical goods:						
	Battery jars, boxes, and parts:						
3069E 11	Jars and boxes	Millions.....	4	(S)	24.8	(S)	54.2
3069E 12	Parts	.....	3	(X)	15.4	(X)	21.5
3069E 19	Other hard rubber mechanical goods	.....	7	(X)	13.3	(X)	23.0
3069E 21	Thread, bare	Million lb....	8	26.0	43.5	32.5	34.3
3069E 22	Boats, pontoons, and life rafts	.....	9	(X)	19.8	(X)	7.5
3069E 23	Balloons (toy, advertising, meteorological, etc.)	.....	10	(X)	25.6	(X)	23.0
	Stationer's sundries:						
3069E 24	Bands	Million lb....	7	**21.9	23.3	15.9	11.9
3069E 25	Other, including finger cots and erasers, but excluding pencil plugs	Million lb....	8	(S)	8.9	(S)	6.4
3069E 26	Toys, except balloons, balls, and dolls	.....	5	(X)	2.4	-	5.7
3069E 27	Tank blocks, threads, and band tracks	.....	2	(X)	268.0	(X)	30.1
3069E 29	Other rubber goods	.....	52			(X)	129.2
3069E 00	Other rubber goods, n.s.k.	.....	(NA)	(X)	10.9	(X)	(NA)
30699 --	Compounds or mixtures for sale or interplant transfer:						
30699 11	Compounds or mixtures for sale or interplant transfer	.....	43	(X)	246.1	(X)	186.7
30690 00	Fabricated rubber products, n.e.c., n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	178.4	(X)	111.3
30690 02	Fabricated rubber products, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	124.5	(X)	29.4

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
	MISCELLANEOUS PLASTICS PRODUCTS			
3079- --	Total	(NA)	23,878.7	11,094.5
30791 --	Unsupported plastics film, sheeting, rods, tubes, and other shapes:			
	As reported in Census of manufactures	611	3,978.0	2,064.8
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
	Film, sheets and sheetings (excluding foam and floor and wall covering):			
30791 17	Cellulosic	(NA)	150.1	60.4
30791 27	Polyethylene	(NA)	893.7	442.1
30791 37	Polypropylene	(NA)	299.2	74.1
30791 47	Polystyrene	(NA)	119.5	44.3
30791 67	Vinyl and vinyl copolymer	(NA)	803.5	415.5
30791 77	Other unsupported plastics film, sheets and sheeting	(NA)	900.6	396.6
30791 85	Rods, tubes, and other stock shapes (excluding foam)	(NA)	349.8	215.5
30791 00	Unsupported plastics film, sheets, sheeting, rods, tubes, and other stock shapes, n.s.k.	(NA)	460.6	416.3
30793 --	Laminated plastics sheets, rods, and tubes:			
	As reported in census of manufactures	159	1,112.0	568.1
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
30793 01	Thermosetting	(NA)	758.7	423.9
30793 81	Thermoplastic	(NA)	272.9	68.3
30793 00	Laminated sheets, rods, and tubes, n.s.k.	(NA)	80.4	75.9
30796 --	Building and construction plastics products:			
	As reported in census of manufactures	610	2,695.9	(NA)
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
30796 12	Corrugated and flat panels	(NA)	108.8	99.2
30796 13	Glazing panels	(NA)	28.5	(NA)
30796 23	Doors, partitions, moldings, windows and frames, and decorative trim	(NA)	104.4	(NA)
30796 25	Siding	(NA)	82.0	(NA)
30796 27	Gutters and downspouts	(NA)	(12)	(NA)
30796 32	Supported floor, wall, and counter coverings	(NA)	25.1	(NA)
	Unsupported floor, wall, and counter coverings:			
30796 35	Floor tile	(NA)	22.4	19.0
30796 39	Other, including sheet goods, wall tile, ceiling tile, and counter covering	(NA)	81.3	30.3
30796 54	Plumbing fixtures	(NA)	296.0	106.6
30796 57	Pipe	(NA)	951.6	338.1
30796 58	Fittings and unions	(NA)	283.0	129.6
30796 71	Air structures	(NA)	(12)	(NA)
30796 31	Insulation (foam) including pipe and block	(NA)	218.7	(NA)
30796 98	Other construction plastics products	(NA)	12219.0	157.5
30796 00	Construction plastics products, n.s.k.	(NA)	275.1	234.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishments of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
	MISCELLANEOUS PLASTICS PRODUCTS--Con.			
30798 --	Regenerated cellulosic products, except rayon:			
	As reported in census of manufactures	59	389.2	429.3
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
30798 27	Reported	(NA)	322.3	(NA)
30798 00	Estimated	(NA)	66.9	
30799 --	Custom compounded purchased resins:			
	As reported in census of manufactures	191	699.6	227.2
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
30799 11	Reported	(NA)	421.3	(NA)
30799 00	Estimated	(NA)	278.3	
3079A --	Plastics and resins materials, n.e.c.:			
	As reported in census of manufactures	260	424.5	(NA)
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
3079A 18	Monofilaments	(NA)	46.0	(NA)
3079A 23	Other plastics and resin materials	(NA)	178.8	
3079A 00	Plastics and resin materials, n.s.k.	(NA)	199.7	
3079B --	Furniture components and furnishings:			
	As reported in census of manufactures	268	1,032.7	(NA)
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
3079B 12	Mattress cores	(NA)	41.5	45.1
3079B 24	Foam plastics for furniture (including pillows, seating, cushioning, carpet and rug cushions)	(NA)	693.2	507.8
3079B 36	Furniture components, accessories, and parts, except foam	(NA)	120.9	
3079B 48	Other (including fixtures, lampshades, mirror and picture frames, etc.)	(NA)	45.5	192.1
3079B 00	Furniture components and furnishings, n.s.k.	(NA)	131.6	
3079C --	Packaging:			
	As reported in census of manufactures	686	2,729.5	(NA)
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
3079C 19	Foamed protective shipping pades and shaped packaging	(NA)	139.5	35.6
3079C 24	Pallets	(NA)	[14]6.1	(NA)
3079C 31	Bottles, 2 gallons and less	(NA)	663.2	420.3
3079C 39	Pails and drums, over 3 gallons	(NA)	[13]161.6	
3079C 44	Tubs, for food products	(NA)	175.3	89.0
3079C 51	Jars	(NA)	73.4	
3079C 79	Caps and closures	(NA)	467.1	273.4
3079C 81	Food trays (baskets, shipping boxes, and cases)	(NA)	172.8	166.3
3079C 89	Other plastics packaging	(NA)	401.2	234.2
3079C 00	Plastics packaging, n.s.k.	(NA)	487.6	(NA)
3079D --	Transportation fabricated plastics products:			
	As reported in census of manufactures	535	2,384.5	(NA)
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
	Components, housing, accessories, and parts for transportation equipment:			
3079D 32	Motor vehicles	(NA)	1,231.9	553.2
3079D 34	Aircraft, space and missile	(NA)	79.2	88.8
3079D 36	Other transportation equipment	(NA)	105.7	32.0
3079D 38	Foam plastics for automotive (including seating, dash, and other interior/exterior components)	(NA)	646.2	(NA)
3079D 00	Plastics for transportation, n.s.k.	(NA)	321.5	(NA)
3079E --	Electrical and electronic fabricated plastics products:			
	As reported in census of manufactures	612	1,305.3	(NA)
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
3079E 11	Office, computing and accounting machines, cash registers and data processing machines	(NA)	136.0	61.0
3079E 23	Household and commercial appliances	(NA)	274.4	245.9
3079E 35	Telephone and telegraph components, accessories, and parts	(NA)	64.9	(NA)
3079E 47	Radio and television	(NA)	52.9	(NA)
3079E 59	Phonograph and tape recorder components	(NA)	43.8	(NA)
3079E 71	Battery cases and parts	(NA)	111.7	(NA)
3079E 83	Other electrical and electronic equipment, including wiring devices and parts	(NA)	232.8	281.2
3079E 00	Electrical and electronic equipment, n.s.k.	(NA)	388.8	(NA)
3079F --	Industrial machinery:			
	As reported in census of manufactures	443	620.1	(NA)
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
3079F 15	Foamed rigid products (including buoys, floats, etc.)	(NA)	2.5	(NA)
3079F 20	Gears, hearing, bushings, and cams	(NA)	27.2	52.2
3079F 25	Other components, housings, accessories, and parts	(NA)	83.9	157.0
3079F 30	Process equipment, tooling plugs, grommets, etc	(NA)	10.1	(NA)
3079F 35	Material handling trays (excluding pallets)	(NA)	23.7	(NA)
3079F 40	Other industrial plastics products	(NA)	196.6	152.6
3079F 00	Industrial/machinery plastics products, n.s.k.	(NA)	276.1	121.3

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishments of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
	MISCELLANEOUS PLASTICS PRODUCTS--Con.			
3079G --	Dinnerware, tableware, and kitchenware, except cups:			
	As reported in census of manufactures	110	608.8	(NA)
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
3079G 10	Reported	(NA)	549.8	356.2
3079G 00	Estimated	(NA)	59.0	
3079H --	Consumer, institutional, and commercial fabricated plastics products, n.e.c.:			
	As reported in census of manufactures	1,115	2,941.1	(NA)
	As reported in Current Industrial Reports MA-30D, Plastics Products:			
3079H 31	Foam plastics (including sponges, holiday decorations, etc.)	(NA)	64.7	(NA)
3079H 33	Foam cups	(NA)	142.3	123.0
3079H 37	Nonfoam cups	(NA)	78.5	
3079H 41	Tubing (under 1/2 inch diameter)	(NA)	28.0	19.2
3079H 43	Shoe products	(NA)	83.5	61.8
3079H 47	Utility containers	(NA)	115.0	94.1
3079H 51	Garbage and trash containers	(NA)	92.8	(NA)
3079H 53	Flower pots, flower boxes, and planters	(NA)	68.4	28.4
3079H 57	Picnic jugs, cooler chests, and ice buckets	(NA)	[13]96.2	45.7
3079H 61	Hardware	(NA)	18.8	21.8
3079H 63	Hospitalware	(NA)	81.9	(NA)
3079H 67	Laboratoryware	(NA)	56.8	(NA)
3079H 71	Individual packaging boxes and cases for consumer products	(NA)	[13]50.5	(NA)
3079H 73	Other consumer and commercial products, n.e.c.	(NA)	720.5	338.9
3079H 00	Consumer, institutional, and commercial fabricated plastics products, n.s.k.	(NA)	1,243.2	(NA)
30790 00	Miscellaneous plastics products, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	2,321.7	920.8
30790 02	Miscellaneous plastics products, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	635.8	274.8

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figures: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1972, product code 30113 09 was included with product codes 30111 12 and 30111 15.

[4]For 1977, product codes 30113 11 and 30113 17 were combined with product code 30113 35 to avoid disclosing operations of individual companies.

[5]For 1972, product code 30113 35 was combined with product code 30113 00 to avoid disclosing operations of individual companies.

[6]For 1977, product codes 30114 24 and 30114 27 were combined with product code 30114 26 to avoid disclosing operations of individual companies.

[7]For 1972, product code 30114 24 was combined with product codes 30114 26 and 30114 27 to avoid disclosing operations of individual companies.

[8]For 1972, product code 30693 17 was included with product code 30693 68.

[9]For 1972, product code 3069B 12 was included with product code 3069B 19.

[10]For 1977, product codes 30697 11 and 30697 31 were included with product code 30697 78.

[11]Value reported by all producers of product, not just those with shipments of $100,000 or more.

[12]For 1977, product codes 30796 27 and 30796 71 are combined with 30796 98 to avoid disclosing operations of individual companies.

[13]10 to 25 percent is estimated.

[14]Over 50 percent is estimated.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
30111, PASSENGER CAR PNEUMATIC TIRES (CASTINGS)		
United States	4,571.1	2,860.0
Middel Atlantic Division:		
Pennsylvania	261.2	229.0
East North Central Division:		
Ohio	395.8	376.4
Illinois	335.1	GG
South Atlantic Division:		
North Carolina	384.1	GG
East South Central Division:		
Alabama	507.3	280.9
Pacific Division:		
California	241.5	GG
30112, TRUCK AND BUS PNEUMATIC TIRES		
United States	2,276.6	1,282.1
Middle Atlantic Division:		
Pennsylvania	103.5	54.0
East North Central Division:		
Ohio	419.2	281.8
Pacific Division:		
California	164.0	GG
30113, OTHER PNEUMATIC TIRES AND ALL SOLID TIRES		
United States	660.5	381.1
Middle Atlantic Division:		
Pennsylvania	45.0	FF
East North Central Division:		
Ohio	81.1	65.9
30114, INNER TUBES, ALL		
United States	230.5	146.7
East North Central Division:		
Ohio	3.1	EE
30115, TREAD RUBBER, TIRE SUNDRIES AND REPAIR MATERIALS		
United States	368.7	217.0
Middle Atlantic Division:		
Pennsylvania	16.3	FF
East North Central Division:		
Ohio	30.7	26.4
Illinois	6.9	CC
South Atlantic Division:		
North Carolina	53.6	FF
Georgia	44.9	15.7
East South Central Division:		
Alabama	17.2	EE
West South Central Division:		
Texas	38.2	EE
Pacific Division:		
California	51.9	FF
30411, RUBBER AND PLASTICS BELTS AND BELTING, FLAT		
United States	260.9	157.6
Middle Atlantic Division:		
New Jersey	31.0	37.1
Pennsylvania	13.9	7.3
East North Central Division:		
Ohio	145.1	62.1
Pacific Division:		
California	8.1	BB
30412, OTHER RUBBER AND PLASTICS BELTS AND BELTING		
United States	348.4	204.0
South Atlantic Division:		
South Carolina	33.5	(NA)
30413, RUBBER HOSE, MANDREL MADE AND ALL HYDRAULIC		
United States	253.4	144.4
Middle Atlantic Division:		
New Jersey	12.5	FF
East North Central Division:		
Michigan	8.9	AA
30416, ALL OTHER RUBBER AND PLASTICS HOSE, N.E.C.		
United States	387.4	237.0
New England Division:		
Massachusetts	20.1	CC
Middle Atlantic Division:		
New Jersey	45.8	BB
East North Central Division:		
Ohio	108.9	55.8
Indiana	10.5	6.5
Illinois	5.6	1.4
South Atlantic Division:		
North Carolina	55.6	EE
Pacific Division:		
California	25.2	CC
30693, SPONGE AND FOAM RUBBER GOODS		
United States	584.3	350.1
New England Division:		
Connecticut	18.9	GG
Middle Atlantic Division:		
New York	7.0	(NA)
New Jersey	12.9	3.9
East North Central Division:		
Ohio	119.3	GG
Illinois	18.1	15.1
South Atlantic Division:		
Georgia	36.9	CC
East South Central Division:		
Tennessee	81.7	FF
West South Central Division:		
Texas	14.0	CC
Pacific Division:		
California	46.4	21.5
30694, RUBBER FLOOR AND WALL COVERINGS		
United States	170.6	98.4
East North Central Division:		
Ohio	83.1	GG
South Atlantic Division:		
Georgia	9.5	BB
Pacific Division:		
California	18.7	8.5
30696, RUBBER SHOE PRODUCTS, ELASTOMER RESIN		
United States	225.1	154.5
New England Division:		
New Hampshire	10.2	BB
Massachusetts	52.9	37.9
Middle Atlantic Division:		
Pennsylvania	3.2	(NA)
West North Central Division:		
Missouri	18.8	CC
East South Central Division:		
Tennessee	23.9	EE

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
30697, RUBBER DRUGGIST AND MEDICAL SUNDRIES		
United States	232.0	116.8
Middle Atlantic Division:		
New Jersey	35.7	16.3
East North Central Division:		
Ohio	45.4	FF
30699, RUBBER COMPOUNDS OR MIXTURES		
United States	246.1	(NA)
Middle Atlantic Division:		
New Jersey	11.4	(NA)
Pennsylvania	4.5	(NA)
East North Central Division:		
Ohio	79.8	(NA)
Illinois	2.2	(NA)
South Atlantic Division:		
Georgia	18.6	(NA)
3069A, MOLDED RUBBER MECHANICAL GOODS		
United States	1,305.9	(NA)
New England Division:		
Massachusetts	48.0	(NA)
Connecticut	41.2	(NA)
Middle Atlantic Division:		
New York	28.4	(NA)
New Jersey	33.4	(NA)
Pennsylvania	68.9	(NA)
East North Central Division:		
Ohio	337.9	(NA)
Indiana	212.4	(NA)
Illinois	59.0	(NA)
Michigan	105.6	(NA)
Wisconsin	34.1	(NA)
West North Central Division:		
Minnesota	13.8	(NA)
South Atlantic Division:		
Virginia	23.5	(NA)
Georgia	24.5	(NA)
Pacific Division:		
California	61.0	(NA)
3069B, EXTRUDED LATHE CUT RUBBER MECHANICAL GOODS		
United States	259.8	(NA)
Middle Atlantic Division:		
New Jersey	13.5	(NA)
Pennsylvania	4.2	(NA)
East North Central Division:		
Ohio	87.9	(NA)
Indiana	51.2	(NA)
Illinois	7.2	(NA)
Michigan	26.3	(NA)
Pacific Division:		
California	14.1	(NA)
3069C, INDUSTRIAL RUBBER PRODUCTS, N.E.C.		
United States	262.0	(NA)
New England Division:		
Massachusetts	23.3	(NA)
Middle Atlantic Division:		
New York	3.9	(NA)
New Jersey	10.7	(NA)
Pennsylvania	15.7	(NA)
3069C, INDUSTRIAL RUBBER PRODUCTS, N.E.C.--Con.		
East North Central Division:		
Ohio	32.6	(NA)
Illinois	9.4	(NA)
Michigan	7.6	(NA)
West Central Division:		
Minnesota	4.7	(NA)
Iowa	2.9	(NA)
South Atlantic Division:		
Virginia	4.5	(NA)
East South Central Division:		
Alabama	8.3	(NA)
Pacific Division:		
Washington	4.8	(NA)
California	28.3	(NA)
3069D, RUBBER COATED FABRICS AND RUBBER CLOTHING		
United States	178.6	(NA)
New England Division:		
Massachusetts	40.2	(NA)
Connecticut	12.9	(NA)
Middle Atlantic Division:		
New Jersey	7.8	(NA)
East North Central Division:		
Ohio	17.9	(NA)
Pacific Division:		
California	8.0	(NA)
3069E, OTHER RUBBER GOODS		
United States	455.9	(NA)
New England Division:		
Massachusetts	32.1	(NA)
Rhode Island	17.3	(NA)
Middle Atlantic Division:		
New York	8.9	(NA)
New Jersey	36.5	(NA)
Pennsylvania	8.0	(NA)
East North Central Division:		
Ohio	156.3	(NA)
Indiana	58.4	(NA)
South Atlantic Division:		
North Carolina	10.4	(NA)
Florida	7.7	(NA)
East South Central Division:		
Tennessee	17.6	(NA)
West South Central Division:		
Arkansas	9.6	(NA)
Pacific Division:		
California	31.8	(NA)
30791, UNSUPPORTED PLASTICS FILM, SHEETS, RODS, AND TUBES		
United States	3,978.0	2,064.8
New England Division:		
Massachusetts	248.4	118.1
Rhode Island	26.6	16.8
Connecticut	68.5	35.5
Middle Atlantic Division:		
New York	258.8	142.1
New Jersey	441.8	221.8
Pennsylvania	272.5	165.1
East North Central Division:		
Ohio	349.0	208.2
Indiana	145.4	65.5
Illinois	198.8	74.6
Michigan	108.8	86.0
Wisconsin	73.1	45.8

See footnotes at end of table.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972 — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
30791, UNSUPPORTED PLASTICS FILM, SHEETS, RODS, TUBES--Con.		
West North Central Division:		
Minnesota	79.8	44.5
Iowa	45.0	27.2
Missouri	85.0	22.3
Kansas	32.2	EE
South Atlantic Division:		
Delaware	48.7	EE
Maryland	10.8	BB
Virginia	192.5	69.9
North Carolina	111.9	53.8
South Carolina	182.6	76.5
Georgia	72.9	30.2
Florida	16.7	23.3
East South Central Division:		
Kentucky	71.4	35.2
Tennessee	25.9	68.4
West South Central Division:		
Texas	221.6	67.0
Mountain Division:		
Colorado	8.3	2.5
Pacific Division:		
Washington	27.9	13.8
Oregon	26.8	EE
California	224.3	142.8
30793, LAMINATED PLASTICS SHEETS, RODS, AND TUBES		
United States	1,112.0	568.1
New England Division:		
Massachusetts	43.6	27.3
Connecticut	13.0	CC
Middle Atlantic Division:		
New York	59.2	25.3
New Jersey	32.3	17.0
Pennsylvania	115.1	26.5
East North Central Division:		
Ohio	196.5	128.9
Indiana	25.1	13.1
Illinois	29.3	19.1
Wisconsin	113.3	52.1
West North Central Division:		
Missouri	2.5	AA
South Atlantic Division:		
Maryland	42.3	EE
Virginia	9.3	(NA)
West South Central Division:		
Texas	103.9	FF
Pacific Division:		
California	150.0	GG
30796, PLASTICS BUILDING AND CONSTRUCTION PRODUCTS		
United States	2,695.9	1,114.8
New England Division:		
Massachusetts	46.7	EE
Middle Atlantic Division:		
New York	58.3	40.5
New Jersey	74.2	43.3
Pennsylvania	103.7	31.3
East North Central Division:		
Ohio	225.3	157.5
Indiana	151.8	55.6
Illinois	181.3	27.6
Michigan	80.4	40.2
Wisconsin	55.5	16.3
West North Central Division:		
Minnesota	45.3	43.6
Iowa	45.6	9.5
Missouri	73.4	15.0
Nebraska	6.8	CC
Kansas	73.3	25.0

Product class and geographic area	Value of product shipments	
	1977	1972
30796, PLASTICS BUILDING AND CONSTRUCTION PRODUCTS--Con.		
South Atlantic Division:		
Maryland	26.3	4.8
Virginia	13.8	6.6
North Carolina	84.1	20.2
South Carolina	35.4	(NA)
Georgia	51.4	21.4
Florida	93.2	31.4
East South Central Division:		
Kentucky	103.2	26.7
Tennessee	80.0	EE
Alabama	64.3	54.0
West South Central Division:		
Arkansas	53.4	25.1
Louisiana	6.7	BB
Oklahoma	70.5	CC
Texas	200.2	115.6
Mountain Division:		
Idaho	4.2	2.4
Colorado	100.7	6.1
Arizona	5.1	5.6
Pacific Division:		
Washington	41.5	11.0
Oregon	16.4	(NA)
California	351.8	197.1
30798, REGENERATED CELLULOSIC PRODUCTS, EXCEPT RAYON		
United States	389.2	429.3
Middle Atlantic Division:		
New York	16.3	12.7
East North Central Division:		
Ohio	8.8	11.1
West South Central Division:		
Texas	2.8	(NA)
Pacific Division:		
California	6.5	6.9
30799, CUSTOM COMPOUNDED PURCHASED RESINS, PLASTICS		
United States	699.6	227.2
New England Division:		
Massachusetts	45.4	EE
Middle Atlantic Division:		
New York	26.0	17.5
New Jersey	102.3	28.8
Pennsylvania	79.3	20.9
East North Central Division:		
Ohio	62.8	17.9
Indiana	45.3	(NA)
Illinois	27.9	12.0
Michigan	43.9	22.4
Wisconisn	16.3	(NA)
West North Central Division:		
Minnesota	7.9	BB
South Atlantic Division:		
North Carolina	14.1	5.8
Florida	4.1	(NA)
West South Central Division:		
Texas	16.2	CC
Pacific Division:		
California	82.7	22.0

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** - Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
3079A, OTHER PLASTICS AND RESIN MATERIALS, N.E.C.		
United States	424.5	(NA)
New England Division:		
Massachusetts	20.3	(NA)
Connecticut	15.6	(NA)
Middle Atlantic Division:		
New York	31.6	(NA)
New Jersey	20.8	(NA)
Pennsylvania	20.0	(NA)
East North Central Division:		
Ohio	18.5	(NA)
Indiana	3.6	(NA)
Illinois	30.3	(NA)
West North Central Division:		
Minnesota	11.6	(NA)
Missouri	4.1	(NA)
Kansas	4.0	(NA)
South Atlantic Division:		
North Carolina	25.0	(NA)
Georgia	6.0	(NA)
Florida	8.3	(NA)
East South Central Division:		
Tennessee	12.2	(NA)
West South Central Division:		
Arkansas	9.9	(NA)
Texas	14.7	(NA)
Mountain Division:		
Colorado	3.9	(NA)
Pacific Division:		
Washington	2.0	(NA)
California	37.0	(NA)
3079B, PLASTICS FURNITURE COMPONENTS AND FURNISHINGS		
United States	1,032.7	(NA)
New England Division:		
Massachusetts	11.0	(NA)
Connecticut	15.4	(NA)
Middle Atlantic Division:		
New York	11.8	(NA)
New Jersey	70.1	(NA)
Pennsylvania	76.2	(NA)
East North Central Division:		
Ohio	22.9	(NA)
Indiana	51.4	(NA)
Illinois	40.7	(NA)
Michigan	16.3	(NA)
Wisconsin	11.1	(NA)
West North Central Division:		
Minnesota	5.7	(NA)
Missouri	5.7	(NA)
South Atlantic Division:		
North Carolina	194.9	(NA)
South Carolina	14.4	(NA)
Georgia	17.9	(NA)
Florida	12.6	(NA)
East South Central Division:		
Tennessee	51.7	(NA)
Alabama	2.3	(NA)
Mississippi	56.9	(NA)
West South Central Division:		
Arkansas	19.8	(NA)
Texas	48.4	(NA)
Mountain Division:		
Colorado	6.5	(NA)
Pacific Division:		
Oregon	10.5	(NA)
California	152.9	(NA)

Product class and geographic area	Value of product shipments	
	1977	1972
3079C, PLASTICS PACKAGING PRODUCTS		
United States	2,729.5	(NA)
New England Division:		
New Hampshire	26.2	(NA)
Vermont	3.7	(NA)
Massachusetts	155.8	(NA)
Rhode Island	26.7	(NA)
Connecticut	53.0	(NA)
Middle Atlantic Division:		
New York	158.1	(NA)
New Jersey	309.5	(NA)
Pennsylvania	146.0	(NA)
East North Central Division:		
Ohio	201.5	(NA)
Indiana	100.7	(NA)
Illinois	430.8	(NA)
Michigan	76.0	(NA)
Wisconsin	39.9	(NA)
West North Central Division:		
Minnesota	24.4	(NA)
Iowa	25.5	(NA)
Missouri	84.2	(NA)
Nebraska	2.9	(NA)
Kansas	24.1	(NA)
South Atlantic Division:		
Delaware	22.3	(NA)
Maryland	73.4	(NA)
Virginia	24.8	(NA)
North Carolina	42.4	(NA)
South Carolina	5.1	(NA)
Georgia	86.0	(NA)
Florida	32.7	(NA)
East South Central Division:		
Kentucky	37.1	(NA)
Tennessee	61.7	(NA)
Alabama	7.5	(NA)
West South Central Division:		
Oklahoma	4.4	(NA)
Texas	74.3	(NA)
Mountain Division:		
Colorado	5.2	(NA)
Pacific Division:		
Washington	12.4	(NA)
Oregon	12.8	(NA)
California	280.9	(NA)
3079D, PLASTICS TRANSPORTATION PRODUCTS		
United States	2,384.5	(NA)
New England Division:		
Connecticut	5.3	(NA)
Middle Atlantic Division:		
New York	89.4	(NA)
New Jersey	7.4	(NA)
Pennsylvania	49.0	(NA)
East North Central Division:		
Ohio	709.5	(NA)
Indiana	172.1	(NA)
Illinois	114.5	(NA)
Michigan	566.7	(NA)
Wisconsin	41.9	(NA)
West North Central Division:		
Minnesota	21.1	(NA)
Missouri	34.4	(NA)
Kansas	6.9	(NA)
South Atlantic Division:		
Florida	15.3	(NA)
East South Central Division:		
Kentucky	32.7	(NA)
Tennessee	38.4	(NA)
Mississippi	3.4	(NA)

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
3079D, PLASTICS TRANSPORTATION PRODUCTS--Con.		
West South Central Division:		
Oklahoma	5.7	(NA)
Texas	32.8	(NA)
Pacific Division:		
California	89.6	(NA)
3079E, PLASTICS ELECTRICAL AND ELECTRONIC PRODUCTS		
United States	1,305.3	(NA)
New England Division:		
New Hampshire	15.8	(NA)
Vermont	11.7	(NA)
Massachusetts	51.9	(NA)
Connecticut	24.3	(NA)
Middle Atlantic Division:		
New York	46.5	(NA)
New Jersey	66.3	(NA)
Pennsylvania	101.3	(NA)
East North Central Division:		
Ohio	158.5	(NA)
Indiana	138.2	(NA)
Illinois	116.6	(NA)
Michigan	53.5	(NA)
Wisconsin	57.8	(NA)
West North Central Division:		
Minnesota	45.3	(NA)
Iowa	22.9	(NA)
Missouri	17.1	(NA)
Kansas	2.3	(NA)
South Atlantic Division:		
Maryland	5.0	(NA)
North Carolina	19.5	(NA)
South Carolina	23.8	(NA)
Florida	21.1	(NA)
East South Central Division:		
Kentucky	44.3	(NA)
Tennessee	4.3	(NA)
Mississippi	8.5	(NA)
West South Central Division:		
Texas	14.8	(NA)
Mountain Division:		
Colorado	4.1	(NA)
Arizona	5.9	(NA)
Pacific Division:		
Washington	4.6	(NA)
Oregon	2.4	(NA)
California	154.6	(NA)
3079F, PLASTICS INDUSTRIAL MACHINERY PRODUCTS		
United States	620.1	(NA)
New England Division:		
Vermont	3.3	(NA)
Massachusetts	32.4	(NA)
Connecticut	18.2	(NA)
Middle Atlantic Division:		
New York	20.0	(NA)
New Jersey	36.9	(NA)
Pennsylvania	47.5	(NA)
East North Central Division:		
Ohio	58.4	(NA)
Indiana	20.6	(NA)
Illinois	57.1	(NA)
Michigan	36.8	(NA)
Wisconsin	29.9	(NA)

Product class and geographic area	Value of product shipments	
	1977	1972
3079F, PLASTICS INDUSTRIAL MACHINERY PRODUCTS--Con.		
West North Central Division:		
Minnesota	30.8	(NA)
Iowa	15.8	(NA)
Missouri	8.6	(NA)
Nebraska	3.6	(NA)
South Atlantic Division:		
North Carolina	14.3	(NA)
South Carolina	22.9	(NA)
Georgia	11.6	(NA)
Florida	8.4	(NA)
West South Central Division:		
Texas	19.6	(NA)
Pacific Division:		
Washington	14.3	(NA)
Oregon	3.3	(NA)
California	40.4	(NA)
3079G, PLASTICS DINNERWARE, TABLEWARE, AND KITCHENWARE		
United States	608.8	(NA)
New England Division:		
Massachusetts	53.7	(NA)
Connecticut	7.4	(NA)
Middle Atlantic Division:		
New York	37.8	(NA)
New Jersey	22.6	(NA)
Pennsylvania	21.5	(NA)
East North Central Division:		
Illinois	43.3	(NA)
Michigan	8.1	(NA)
Wisconsin	22.2	(NA)
West North Central Division:		
Minnesota	29.6	(NA)
South Atlantic Division:		
Maryland	5.4	(NA)
Pacific Division:		
California	22.8	(NA)
3079H, OTHER PLASTICS PRODUCTS, N.E.C.		
United States	2,941.1	(NA)
New England Division:		
Maine	26.9	(NA)
New Hampshire	28.9	(NA)
Vermont	9.4	(NA)
Rhode Island	18.1	(NA)
Connecticut	85.8	(NA)
Middle Atlantic Division:		
New York	268.2	(NA)
New Jersey	155.1	(NA)
Pennsylvania	182.3	(NA)
East North Central Division:		
Ohio	278.8	(NA)
Indiana	64.0	(NA)
Illinois	321.1	(NA)
Michigan	66.1	(NA)
Wisconsin	55.8	(NA)
West North Central Division:		
Minnesota	38.7	(NA)
Iowa	12.4	(NA)
Missouri	98.2	(NA)
Kansas	42.0	(NA)
South Atlantic Division:		
Maryland	31.4	(NA)
Virginia	68.9	(NA)
North Carolina	40.6	(NA)
South Carolina	22.5	(NA)
Georgia	32.7	(NA)
Florida	37.9	(NA)

See footnotes at end of table.

Table 6b. **Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments		Product class and geographic area	Value of product shipments	
	1977	1972		1977	1972
3079H, OTHER PLASTICS PRODUCTS, N.E.C.--Con.			3079H, OTHER PLASTICS PRODUCTS, N.E.C.--Con.		
East South Central Division:			Mountain Division:		
Kentucky	29.8	(NA)	Colorado	31.0	(NA)
Tennessee	45.0	(NA)	Arizona	7.5	(NA)
Albama	15.8	(NA)			
Mississippi	36.8	(NA)			
West South Central Division:			Pacific Division:		
Arkansas	46.8	(NA)	Washington	13.8	(NA)
Oklahoma	33.5	(NA)	Oregon	7.2	(NA)
Texas	140.1	(NA)	California	265.1	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3011-	Tires and inner tubes	8,127.6	6,527.7	6,106.8	6,142.4	5,506.3	4,898.4	3,133.5	2,419.8
30111	Passenger car pneumatic tires (castings)	4,571.1	3,631.4	3,391.7	3,233.1	3,121.8	2,860.0	1,713.6	1,285.9
30112	Truck and bus pneumatic tires	2,276.6	1,754.0	1,709.4	1,928.0	1,546.5	1,282.1	829.4	659.5
30113	Other pneumatic tires and all solid tires	660.5	571.2	501.7	498.4	419.5	381.1	274.5	186.8
30114	Inner tubes, all	230.5	221.1	195.0	212.6	164.2	146.7	112.9	95.1
30115	Tread rubber, tire sundries and repair materials	368.7	337.6	298.2	263.1	242.2	217.0	198.3	192.5
30110	Tires and inner tubes, n.s.k	20.2	(12.4)	(10.8)	7.2	(12.1)	11.5	4.9	-
30210	Rubber and plastics footwear	404.8	475.4	500.6	512.8	469.7	493.9	402.0	362.5
30310	Reclaimed rubber	61.5	(31.4)	37.2	48.9	46.5	52.0	47.3	55.2
3041-	Rubber and plastics hose and belting	1,541.2	1,357.2	1,215.2	1,229.0	947.9	886.0	672.1	497.5
30411	Rubber and plastics belts and belting, flat	260.9	248.3	268.9	222.3	160.5	157.6	101.5	(NA)
30412	Other rubber and plastics belts and belting	348.2	295.8	238.1	269.0	223.6	204.0	149.1	(NA)
30413	Rubber hose, mandrel made and all hydraulic	253.4	255.4	203.0	219.8	174.8	143.5	114.6	(NA)
30414	Rubber hose, long length nonhydraulic	164.9	140.8	135.0	142.6	84.2	84.8	52.3	(NA)
30415	Rubber and plastics garden hose	113.3	(64.4)	(60.8)	64.6	53.3	56.3	41.1	(NA)
30416	All other rubber and plastics hose, n.e.c.	387.4	339.9	304.3	310.7	237.6	237.0	213.4	(NA)
30410	Rubber and plastics hose and belting, n.s.k	13.1	(12.6)	5.1	-	(13.9)	2.8	(NA)	(NA)
3069-	Fabricated rubber products, n.e.c	4,223.2	3,669.7	3,210.4	3,322.4	2,961.5	2,538.7	(NA)	(NA)
30693	Sponge and foam rubber goods	584.3	464.6	385.5	447.3	387.7	350.1	276.7	226.4
30694	Rubber floor and wall coverings	170.6	159.6	121.4	114.7	88.2	98.4	70.7	93.2
30696	Rubber shoe products, elastomer resin	225.1	197.6	177.1	197.8	170.9	154.5	126.1	136.2
30697	Rubber druggist and medical sundries	232.0	208.7	181.2	154.4	126.4	116.8	84.1	79.2
30699	Rubber compounds or mixtures	246.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3069A	Molded rubber mechanical goods	1,305.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3069B	Extruded lathe cut rubber mechanical goods	259.8	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3069C	Industrial rubber products, n.e.c	262.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3069D	Rubber coated fabrics and rubber clothing	178.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3069E	Other rubber goods	455.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
30690	Fabricated rubber products, n.e.c., n.s.k	302.9	(137.9)	(125.5)	(119.4)	137.3	140.7	102.1	42.4
3079-	Miscellaneous plastics products	23,878.7	18,897.4	15,378.1	15,979.4	13,374.2	11,094.5	(NA)	(NA)
30791	Unsupported plastics film, sheets, rods, and tubes	3,978.0	3,303.1	2,617.1	2,958.0	2,221.6	2,064.8	1,225.4	688.1
30793	Laminated plastics sheets, rods, and tubes	1,112.0	927.1	770.0	843.7	681.6	568.1	352.8	244.1
30796	Plastics building and construction products	2,695.9	1,666.4	1,284.7	1,494.2	1,362.4	1,114.8	426.7	283.8
30798	Regenerated cellulosic products, except rayon	389.2	451.9	450.4	677.1	506.3	429.3	326.9	327.6
30799	Custom compounded purchased resins, plastics	699.6	441.8	370.7	378.3	320.5	227.2	236.0	184.6
3079A	Other plastics and resin materials, n.e.c	424.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3079B	Plastics furniture components and furnishings	1,032.7	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3079C	Plastics packaging products	2,729.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3079D	Plastics transportation products	2,384.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3079E	Plastics electrical and electronic products	1,305.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3079F	Plastics industrial machinery products	620.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3079G	Plastics dinnerware, tableware, and kitchenware	608.8	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3079H	Other plastics products, n.e.c	2,941.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
30790	Miscellaneous plastics products, n.s.k	2,957.5	4,883.7	3,932.6	3,775.9	3,021.6	2,343.8	(NA)	(NA)

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 3011, TIRES AND INNER TUBES					
	Materials, parts, containers, and supplies	.....	(X)	4,049.9	(X)	2,169.5
	Natural rubber:					
084913	Latex (dry solids content)	Million lb.....	(D)	(D)	22.1	9.0
084915	Dry		1,297.9	516.5	444.1	177.7
	Synthetic rubber:					
282201	SBR (Styrene-butadiene copolymers, including solution polymerized types with styrene content of 50 percent or less) polybutadienes, emulsion polymerized types, and butadiene-vinyl-pyridiene copolymers		2,305.9	644.6	1,023.4	387.3
282204	Butyl type		227.3	105.5	83.4	49.3
282205	Polychloroprene type		8.1	5.6	(S)	10.6
282206	Nitrile type (butadiene-acrylonitrile)		51.1	18.2		
282211	Stereo polybutadiene elastomers (solution-polymerized polybutadiene)		608.0	203.5	355.0	168.4
282207	Polyisoprene type		93.4	40.8	65.4	26.1
282215	Ethylene-propylene type		40.2	18.6	11.4	7.0
282208	Polyurethane		.1	.1	2.6	2.8
282217	Thermoplastic elastomers		(D)	(D)		
282219	Other elastomers		93.8	31.6		
303101	Reclaimed rubber, excluding "mud" and crumb or ground scrap		202.1	32.6	122.5	33.8
306980	Rubber compounds and mixtures purchased (dry rubber solids content)	Million lb.....	205.7	71.4	88.0	33.6
286933	Rubber processing chemicals (accelerators, antitoxidants, blowing agents, inhibitors, peptizers, etc.)	.....	(X)	275.9	(X)	99.8
286935	Plasticizers	Million lb.....	298.4	29.0	356.8	22.6
289501	Carbon black		2,124.2	314.0	1,788.2	148.8
281600	Inorganic pigments		364.8	84.6	532.3	65.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	*65.0	27.1	79.8	12.8
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	2.7	(X)	(2)
	Tire cord and tire fabric:					
229601	Cotton cord	Million lb.....	1.5	2.1	3 4.5	3 3.9
229602	Rayon cord		24.7	29.2	102.1	73.5
229603	Nylon cord		268.6	376.9	285.2	291.4
229604	Aramid		(D)	(D)	(2)	(2)
229605	Polyester cord		293.2	358.6	223.5	204.0
229606	Fiberglass		31.6	33.7	36.7	35.7
229607	Metallic cord		155.9	159.6	(2)	(2)
229609	Chafer and other tire fabric	Million lb.....	14.5	35.1	3 27.9	3 32.8
331003	Steel mill shapes and forms, except castings, forgings, and steel wire	Million s. tons	(D)	(D)	(X)	(2)
332001	Iron and steel castings	Million s. tons	(S)	.5	(X)	(2)
331017	Steel wire	1,000 s. tons..	186.0	145.0	121.4	65.0
260091	Paper and paperboard containers	.....	(X)	7.9	(X)	6.6
970099	All other materials and components, parts, containers, and supplies consumed	.....	(X)	391.9	(X)	2 177.8
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	12.4	(X)	24.2
	INDUSTRY 3021, RUBBER AND PLASTICS FOOTWEAR					
	Materials, parts, containers, and supplies	.....	(X)	192.9	(X)	165.0
	Natural rubber:					
084913	Latex (dry solids content)	Million lb.....	2.8	1.6	1.6	1.0
084915	Dry	Million lb.....	27.3	11.9	12.6	5.5
	Synthetic rubber:					
282201	SBR-type (stryene-butadiene copolymers, including solution polymerized types) with styrene content of 50 percent less; polybutadienes, emulsion polymerized types; and butadiene-vinyl pridine copolymers					
	Purchased	.....	26.4	18.7	15.5	7.3
	Produced and consumed	Million lb.....	(D)	(X)	(S)	(X)
282207	Polyisoprene type:					
	Purchased	.....	2.3	1.6	2.6	1.3
	Produced and consumed	Million lb.....	(D)	(X)	(S)	(X)
282209	Other Elastomers:					
	Purchased	.....	(S)	5.4	2.4	1.6
	Produced and consumed	Million lb.....	-	(X)	(S)	(X)
306980	Rubber compounds and mixtures purchased (dry rubber solids content)	Million lb.....	(X)	(5)	(X)	(6)
286933	Rubber processing chemicals (accelerators, antitoxidants, blowing agents, inhibitors, peptizers, etc.)	.....	(X)	6.4	(X)	4.5
286935	Plasticizers	Million lb.....	13.1	1.6	22.2	2.6
281600	Inorganic pigments	Million lb.....	(X)	(5)	29.0	1.8
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes					
	Purchased	.....	12.8	3.9	(S)	17.7
	Produced and consumed	Million lb.....	-	(X)	(S)	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3021, RUBBER AND PLASTICS FOOTWEAR--Con.					
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	3.1	(NA)	(NA)
	Fabrics:					
220311	Cotton	Million lb.	29.7	44.0	37.2	34.0
220313	Nylon		3.7	7.3	.6	1.0
220315	Polyester		10.3	7.0		
220312	Rayon				6.9	4.8
220319	Other	Million lb.	6.6	6.6		
260091	Paper and paperboard containers	.....	(X)	8.1	(X)	6.9
970099	All other materials and components, parts, containers, and supplies consumed	.....	(X)	[5]42.9	(X)	[6]59.9
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	22.8	(X)	15.1

1977 material code	Material	Unit of measure	1977 Quantity produced and consumed	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3031, RECLAIMED RUBBER						
	(Data were not collected)						
	INDUSTRY 3041, RUBBER AND PLASTICS HOSE AND BELTING						
	Materials, parts, containers, and supplies	.....	(X)	(X)	627.4	(X)	323.4
	Natural rubber:						
084913	Latex (dry solids content)	Million lb.	(X)	*.5	.3	1.1	.6
084915	Dry		(X)	26.3	10.2	8.8	3.8
	Synthetic rubber:						
282201	SBR type (stryene-butadiene copolymers, including solution polymerized types, with styrene content of 50 percent or less), polybutadienes, emulsion polymerized types, and butadiene-vinylpridine copolymers		(S)	78.3	29.5	23.8	9.5
282204	Butyl type		(S)	3.5	1.4	1.1	.7
282205	Polychloroprene type		(S)	57.0	41.5	30.9	28.6
282206	Nitrile type (butadiene-acrylonitrile)		(S)	28.0	16.9	12.0	13.1
282211	Stereopolybutadiene elastomers (solution-polymerized polybutadiene)		(S)	11.4	4.4	3.3	2.1
282207	Polyisoprene type		(S)			3.6	1.6
282215	Ethylene-propylene type		(S)	44.7	22.8	9.4	6.0
282209	Other elastomers		(S)	13.0	8.7	3.6	12.8
303101	Reclaimed rubber, excluding "mud" and crumb or ground scrap		(X)	6.2	1.0	12.9	2.6
306980	Rubber compounds and mixtures purchased (dry rubber solids content)	Million lb.	(S)	104.9	50.3	29.9	15.7
286933	Rubber processing chemicals (accelerators, antitoxidants, blowing agents, inhibitors, peptizers, etc.)	.....	(X)	(X)	20.0	(X)	14.6
286935	Plasticizers	Million lb.	(X)	86.5	15.3	60.1	6.8
289501	Carbon black		(X)	134.9	23.0	127.5	10.7
281600	Inorganic pigments		(X)	87.9	14.9	53.7	4.4
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.	(S)	161.6	48.3	97.8	20.8
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	(X)	11.7	(X)	([7])
	Fabrics:						
220234	Cotton	Mil. lin. yd.	(X)	27.5	39.4	35.8	28.2
220312	Rayon		(X)	**17.9	13.6	24.4	17.3
220313	Nylon		(X)	21.8	26.5	12.9	14.0
220315	Polyester		(X)	(S)	32.5	14.4	13.4
220319	Other	Mil. lin. yd.	(X)	(S)	6.2	3.0	3.0
342986	Hose fittings and couplings	.....	(X)	(X)	16.6	(X)	12.6
331017	Steel wire	1,000 s. tons	(X)	33.3	32.3	24.0	13.6
260091	Paper and paperboard containers	.....	(X)	(X)	12.9	(X)	6.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	(X)	104.5	(X)	[7]48.6
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	(X)	22.7	(X)	12.3

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3069, FABRICATED RUBBER PRODUCTS, N.E.C., AND INDUSTRY 3031, RECLAIMED RUBBER					
	Materials, parts, containers, and supplies	.....	(X)	1,917.4	(X)	1,114.5
	Natural rubber:					
084913	Latex (dry solids content)	1,000 l. tons..	113.3	63.7	52.3	30.2
084915	Dry		122.4	55.3	72.0	31.7
	Synthetic rubber:					
282201	S-type butadiene-styrene copolymer		413.9	137.8	200.0	84.7
282207	Polyisoprene type		26.0	12.1	14.5	7.5
282215	Ethyl-propylene type		85.6	44.4	18.3	11.6
282204	Butyl type		43.5	19.3	19.0	12.7
282205	Polychloroprene type		88.7	61.5	49.2	45.2
282206	N-type (butadiene-acrylonitrile)		61.4	44.5	21.5	23.3
282211	Stereo polybutadiene elastomers (solution-polymerized polybutadiene)		8.2	3.3	7.3	3.2
282208	Polyurethane		17.5	16.3	5.2	9.9
282219	Other elastomers		54.9	54.4	13.4	18.9
282217	Thermoplastic elastomers		7.6	4.4		
303101	Reclaimed rubber, excluding "mud" and crumb or ground scrap		81.5	12.7	32.3	6.1
306980	Rubber compounds and mixtures purchased (dry rubber solids content)	1,000 l. tons..	162.9	79.5	80.7	41.5
286933	Rubber processing chemicals	.....	(X)	107.2	(X)	61.4
286935	Plasticizers	Million lb.....	167.0	35.8	161.7	20.4
289501	Carbon black		288.8	48.3	261.8	23.2
281600	Inorganic pigments		142.2	17.2	357.1	21.7
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and other shapes		96.9	34.8	158.8	30.6
	Fabrics, except tire fabrics:					
220311	Cotton		24.7	17.3	29.3	19.2
220312	Rayon		1.0	1.0	4.3	1.5
220313	Nylon		13.6	11.8	12.7	17.0
220315	Polyester		15.4	5.6	2.4	2.4
220319	Other	Million lb.....	9.4	4.4	7.0	8.5
342986	Hose fittings and couplings	.....	(X)	7.1	(X)	5.2
331017	Steel wire	.....	17.1	10.0	10.4	2.1
331001	Steel mill shapes and forms, except castings and forgings	1,000 s. tons..	118.7	110.4	(X)	(8)
332001	Iron and steel castings	1,000 s. tons..	1,023.7	31.8	(X)	(8)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	20.3	(X)	(8)
260091	Paper and paperboard containers and shipping sacks, including corrugated boxes	.....	(X)	26.6	(X)	28.8
970099	All other materials and components, parts, containers, and supplies	.....	(X)	515.1	(X)	8406.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	303.5	(X)	140.0
	INDUSTRY 3079, MISCELLANEOUS PLASTICS PRODUCTS					
	Materials, parts, containers, and supplies	.....	(X)	10,991.6	(X)	4,329.2
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes:					
	Purchased	Million lb.....	15,059.7	4,847.9	(X)	(9)
	Produced and consumed	Million lb.....	(NA)	(X)	(S)	(X)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	737.1	(X)	(9)
286935	Plasticizers	Million lb.....	393.6	146.8	278.8	47.6
322931	Glass fiber, roving, mats, etc	Million lb.....	284.0	167.6	146.6	69.6
220234	Cotton fabrics	Mil. lin. yd...	134.2	50.1	74.7	21.5
220239	Other textile fabrics	Mil. lin. yd...	257.0	61.2	(X)	27.3
260003	Paper and paperboard products, except paperboard boxes and containers	.....	(X)	225.0	(X)	10125.0
265001	Paperboard boxes and containers	.....	(X)	317.9	(X)	10129.0
970099	All other materials and components, parts, containers, and supplies consumed (see note)	.....	(X)	2,248.0	(X)	93,130.6
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	2,190.0	(X)	778.6

Note: Supplemental data for code 970099 are presented in the 1977 Census of Manufactures subject series Report "Selected Materials Consumed."
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 307903, 229604, 229607, 331003, and 332001 were included with material code 970099.

[3]For 1972, cotton tire fabric was included with material code 229601.

[4]Total cost of materials of establishments that did not report detailed materials data including establishments that were not mailed a form.

[5]For 1977, material codes 306980 and 281600 were included with material code 970099.

[6]For 1972, material code 306980 was included with material code 970099.

[7]For 1972, material code 307903 was included with material code 970099.

[8]For 1972, material codes 331001, 332001, and 307903 were included with material code 970099.

[9]For 1972, material codes 282104 and 307903 were included with material code 970099.

[10]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

Tanning; Industrial Leather Goods; and Shoes

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DESCRIPTION OF INDUSTRIES

TANNING; INDUSTRIAL LEATHER GOODS; AND SHOES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3111	Leather Tanning and Finishing
3131	Boot and Shoe Cut Stock and Findings
3142	House Slippers
3143	Men's Footwear, Except Athletic
3144	Women's Footwear, Except Athletic
3149	Footwear, Except Rubber, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.) This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3111, LEATHER TANNING AND FINISHING

This industry comprises establishments primarily engaged in tanning, currying, and finishing hides and skins into leather. This industry also includes leather converters, who buy hides and skins and have them processed on a contract basis by others.

The total value of shipments for establishments classified in the Leather Tanning and Finishing industry amounted to $1,456 million in 1977, an increase of 37 percent from 1972. The value of shipments of products classified as primary to the industry was $1,380 million, an increase of 34 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for significant portion of this change were upper leather, excluding patent, for which shipments increased 51 percent, and sole leather, for which shipments increased 103 percent. Value added by manufacture, at $535 million in 1977, was 45 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 23.0 thousand employees, a decrease of 11 percent from 1972. The leading States in employment were Wisconsin, Massachusetts, New York, and Maine, accounting for approximately 45 percent of the industry's 1977 employment. This represents a shift from 1972 when Massachusetts, Wisconsin, New York, and New Jersey, account for approximately 45 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 3131, BOOT AND SHOE CUT STOCK AND FINDINGS

This industry comprises establishments primarily engaged in the manufacture of leather soles, innersoles, and other boot and shoe cut stock and findings. This industry also includes finished wood heels. Establishments primarily engaged in the manufacture of heels, soling strips, and soles made of rubber, composition, plastic, and fiber are classified in Major Group 30, Rubber and Miscellaneous Plastics Products.

The total value of shipments for establishments classified in the Boot and Shoe Cut Stock and Findings industry amounted to $271 million in 1977, an increase of 31 percent from 1972. The value of shipments of products classified as primary to the industry was $255 million, an increase of 30 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $109 million in 1977, was 27 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.5 thousand employees, a decrease of 2 percent from 1972. The leading States in employment were Massachusetts, Missouri, and Maine, accounting for approximately 75 percent of the industry's 1977 employment. Data for Maine have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of shipments.

INDUSTRY 3142, HOUSE SLIPPERS

This industry comprises establishments primarily engaged in the manufacture of house slippers of leather or other materials.

The total value of shipments for establishments classified in the House Slippers industry amounted to $201 million in 1977, an increase of 33 percent from 1972. The value of shipments of products classified as primary to the industry was $190 million, an increase of 19 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) However, the quantity of house slippers was 78 million pairs shipped by all manufacturing establishments during 1977. This is 21 percent below the 1972 shipments figure of 99 million pairs. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $109 million in 1977, was 27 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.1 thousand employees, a decrease of 5 percent from 1972. The leading States in employment were New York, New Jersey, Pennsylvania, and Massachusetts, accounting for approximately 60 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3143, MEN'S FOOTWEAR, EXCEPT ATHLETIC

This industry comprises establishments primarily engaged in the manufacture of men's dress and casual shoes and boots and workshoes. Establishments primarily engaged in the manufacture of protective footwear and rubber soles vulcanized to fabric uppers are classified in Industry 3021, Rubber and Plastic Footwear.

The total value of shipments for establishments classified in the Men's Footwear, Except Athletic industry amounted to $1,735 million in 1977, an increase of 35 percent from 1972. The value of shipments of products classified as primary to the industry was $1,592 million, an increase of 35 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The quantity of men's footwear, except athletic, was 109 million pairs shipped by all manufacturing establishments during 1977. This is 13 percent below the 1972 shipments figure of 126 million pairs. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $872 million in 1977, was 29 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 55.0 thousand employees, a decrease of 11 percent from 1972. The leading States in employment were Tennessee, Maine, Missouri, and Wisconsin, accounting for approximately 40 percent of the industry's 1977 employment. Data for Missouri have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3144, WOMEN'S FOOTWEAR, EXCEPT ATHLETIC

This industry comprises establishments primarily engaged in the manufacture of women's dress and casual shoes and boots. Establishments primarily engaged in the manufacture of men's footwear are classified in industry 3143, and rubber and plastic footwear in Industry 3021, Rubber and Plastic Footwear.

The total value of shipments for establishments classified in the Women's Footwear, Except Athletic industry amounted to $1,361 million in 1977, an increase of 1 percent from 1972. The value of shipments of products classified as primary to the industry was $1,387 million, an increase of 3 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) However, the quantity of women's footwear, except athletic, was 150 million pairs shipped by all manufacturing establishments during 1977. This is 30 percent below the 1972 shipments figure of 213 million pairs. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $755 million in 1977, was 1 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 57.6 thousand employees, a decrease of 26 percent from 1972. The leading States in

employment were Maine, New Hampshire, Missouri, and Massachusetts, accounting for approximately 45 percent of the industry's 1977 employment. This represents a shift from 1972 when Pennsylvania, Massachusetts, Maine, and New Hampshire, accounted for approximately 43 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3149, FOOTWEAR, EXCEPT RUBBER, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of all other footwear, except men's and women's; and rubber and plastic footwear.

The total value of shipments for establishments classified in the Footwear, Except Rubber, N.E.C. industry amounted to $595 million in 1977, an increase of 22 percent from 1972. The value of shipments of products classified as primary to the industry was $568 million, an increase of 19 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) However, the quantity of footwear, except rubber, not elsewhere classified was 93 million pairs shipped by all manufacturing establishments during 1977. This is 24 percent below the 1972 shipments figure, 122 million pairs. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $334 million in 1977, was 22 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 24.8 thousand employees, a decrease of 14 percent from 1972. The leading States in employment were Pennsylvania, Missouri, Massachusetts, and Tennessee, accounting for approximately 60 percent of the industry's 1977 employment. Data for Missouri have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3111, LEATHER TANNING AND FINISHING																
1977 Census--	427	465	191	23.0	254.8	19.6	38.2	192.2	535.1	927.6	1 456.1	30.7	(NA)	187.6	99	99
1976 ASM----	(NA)	(NA)	(NA)	23.0	243.9	19.4	38.1	181.4	521.1	816.5	1 326.0	32.6	229.1	169.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	22.5	220.0	19.2	38.0	165.5	443.5	643.3	1 091.8	22.7	213.8	155.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	21.7	194.3	18.3	35.4	141.4	397.8	680.4	1 075.5	13.1	189.6	158.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	23.4	186.5	19.8	37.8	138.2	335.9	744.3	1 081.5	12.8	208.8	160.9	(NA)	(NA)
1972 Census--	468	517	223	25.7	200.0	22.1	41.9	151.3	368.3	708.0	1 059.5	16.3	206.9	149.0	99	99
1971 ASM----	(NA)	(NA)	(NA)	24.5	183.9	20.7	40.9	137.6	335.0	498.5	838.3	17.7	198.0	126.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	24.1	171.5	20.4	40.4	129.8	320.2	471.4	794.4	12.4	179.4	119.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	28.8	188.1	24.4	47.4	142.8	331.2	514.9	853.9	14.4	197.5	136.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	31.1	196.0	26.7	53.0	151.2	349.5	524.5	877.9	16.6	205.0	137.0	(NA)	(NA)
1967 Census--	474	519	258	30.7	186.4	26.4	52.8	142.5	319.4	547.0	870.1	16.7	194.7	135.8	98	99
1966 ASM----	(NA)	(NA)	(NA)	32.7	189.2	28.2	57.5	144.4	326.4	614.1	940.5	17.3	(NA)	144.4	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	32.0	180.0	27.9	56.9	139.0	327.0	535.6	856.7	11.3	(NA)	144.2	(NA)	(NA)
1964 ASM[6]---	(NA)	(NA)	(NA)	31.2	169.0	27.1	54.6	131.5	300.2	481.3	783.6	7.8	190.6	137.7	(NA)	(NA)
1963 Census--	482	525	256	31.4	163.3	27.3	54.6	129.8	273.1	480.5	758.4	6.5	189.2	140.3	99	100
INDUSTRY 3131, BOOT AND SHOE CUT STOCK AND FINDINGS																
1977 Census--	174	190	96	8.5	65.3	7.4	13.0	48.8	109.4	159.1	270.6	3.0	(NA)	31.2	90	92
1976 ASM[5]---	(NA)	(NA)	(NA)	8.4	61.0	7.3	13.0	47.3	94.1	160.3	251.5	4.5	41.1	25.9	(NA)	(NA)
1975 ASM[5]---	(NA)	(NA)	(NA)	7.8	52.6	6.5	11.4	40.6	74.4	136.1	212.3	2.9	(S)	20.5	(NA)	(NA)
1974 ASM[5]---	(NA)	(NA)	(NA)	6.8	43.0	5.9	9.9	33.3	71.8	138.8	207.7	3.2	(S)	23.2	(NA)	(NA)
1973 ASM[6]---	(NA)	(NA)	(NA)	8.5	49.6	7.4	13.4	37.0	95.6	126.3	221.4	2.5	(S)	22.7	(NA)	(NA)
1972 Census--	225	248	121	8.7	50.1	7.6	14.0	37.1	86.2	120.5	206.5	2.9	(S)	21.2	94	95
1971 ASM----	(NA)	(NA)	(NA)	11.0	61.7	9.5	17.7	46.0	110.1	124.7	234.0	6.9	40.7	28.9	(NA)	(NA)
1970 ASM[6]---	(NA)	(NA)	(NA)	12.6	64.9	11.0	20.2	48.8	115.7	133.2	249.4	6.7	38.4	26.7	(NA)	(NA)
1969 ASM[5]---	(NA)	(NA)	(NA)	13.7	65.5	12.1	23.5	50.6	121.3	151.7	269.5	4.5	45.8	30.6	(NA)	(NA)
1968 ASM[6]---	(NA)	(NA)	(NA)	13.8	62.7	12.2	23.6	48.6	120.4	143.6	262.1	2.1	(S)	26.7	(NA)	(NA)
1967 Census--	348	379	189	13.7	59.9	12.2	22.7	45.8	109.2	153.5	262.8	2.7	(S)	25.1	94	93
1966 ASM[6]---	(NA)	(NA)	(NA)	14.5	65.2	12.4	24.2	47.3	104.4	178.9	282.8	3.1	(NA)	25.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	14.5	61.4	12.7	24.8	45.4	98.0	153.9	250.4	2.3	(NA)	23.5	(NA)	(NA)
1964 ASM[5]---	(NA)	(NA)	(NA)	13.8	52.7	12.1	23.3	37.4	97.4	125.7	223.8	1.2	25.0	22.1	(NA)	(NA)
1963 Census[5]-	414	446	204	14.3	53.4	12.6	23.7	40.9	90.6	138.2	229.3	1.6	25.3	23.0	93	94
INDUSTRY 3142, HOUSE SLIPPERS																
1977 Census--	65	78	55	8.1	54.5	7.0	11.7	39.6	108.8	92.7	201.2	2.3	(NA)	29.7	94	96
1976 ASM----	(NA)	(NA)	(NA)	8.3	49.5	7.0	11.7	36.2	98.0	78.1	175.4	1.1	21.9	25.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.0	47.8	6.8	11.7	34.8	96.2	68.8	165.6	1.3	(S)	25.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	8.5	50.7	7.2	13.1	36.1	102.0	75.1	174.9	1.2	(S)	25.0	(NA)	(NA)
1973 ASM[6]---	(NA)	(NA)	(NA)	8.6	46.3	7.1	12.5	32.4	88.9	68.7	157.1	1.5	(S)	25.3	(NA)	(NA)
1972 Census--	82	91	66	8.5	48.1	7.1	12.7	33.4	85.7	66.5	151.4	1.6	(S)	23.6	95	87
1971 ASM----	(NA)	(NA)	(NA)	10.9	53.3	9.3	16.2	37.6	101.2	74.1	176.4	1.1	19.2	24.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	11.3	54.1	9.8	17.5	39.1	101.5	76.0	175.3	1.4	23.0	24.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	11.2	53.5	9.9	18.1	41.2	96.4	77.9	174.0	2.0	19.0	23.1	(NA)	(NA)
1968 ASM[6]---	(NA)	(NA)	(NA)	11.6	54.6	10.2	19.5	42.3	91.6	79.4	173.6	1.2	19.7	22.1	(NA)	(NA)
1967 Census--	125	132	92	12.5	53.2	11.0	20.5	40.0	94.2	86.8	181.0	1.3	21.4	25.0	92	93
1966 ASM----	(NA)	(NA)	(NA)	13.7	53.1	11.7	21.9	39.4	86.8	76.9	162.0	1.4	21.4	19.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	12.6	49.0	11.3	20.2	36.5	78.6	71.2	148.6	1.5	(NA)	16.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	12.1	45.1	10.8	19.2	34.6	72.5	65.2	137.7	1.3	15.4	15.8	(NA)	(NA)
1963 Census--	149	153	97	11.0	39.8	9.9	17.3	30.4	64.6	58.9	123.6	1.1	14.3	11.9	90	85
INDUSTRY 3143, MEN'S FOOTWEAR, EXCEPT ATHLETIC[3]																
1977 Census--	115	213	180	55.0	417.0	49.2	90.1	332.2	871.9	880.0	1 734.5	14.5	(NA)	272.2	92	96
1976 ASM----	(NA)	(NA)	(NA)	55.9	395.8	50.8	92.5	321.6	799.8	825.1	1 606.7	16.8	168.8	240.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	53.9	363.3	48.4	87.9	291.7	740.7	695.9	1 442.8	16.9	164.1	214.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	59.3	366.1	52.8	96.7	294.6	736.5	693.1	1 425.5	19.8	151.1	219.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	60.7	364.3	53.9	102.3	293.7	707.2	684.1	1 376.9	20.9	139.3	217.4	(NA)	(NA)
1972 Census--	115	221	197	61.5	358.1	54.4	106.3	288.9	674.4	623.0	1 288.9	14.3	126.2	193.0	93	97

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3144, WOMEN'S FOOTWEAR, EXCEPT ATHLETIC[3]															
1977 Census--	243	328	241	57.6	388.6	51.3	91.3	315.6	755.0	607.1	1 361.2	9.7	(NA)	147.4	97	92
1976 ASM----	(NA)	(NA)	(NA)	61.0	397.1	54.2	97.7	319.6	727.5	610.9	1 326.7	9.2	148.1	148.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	60.4	368.7	54.0	95.5	292.8	671.1	551.5	1 226.5	10.4	162.2	145.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	64.7	365.7	57.8	102.4	297.7	687.8	555.6	1 243.2	15.0	161.2	142.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	71.8	390.7	64.8	116.8	319.1	756.8	573.1	1 325.5	11.7	157.1	151.3	(NA)	(NA)
1972 Census--	296	422	316	77.4	408.4	70.0	128.5	334.3	763.6	591.6	1 346.1	14.8	156.6	141.7	97	92
	INDUSTRY 3149, FOOTWEAR, EXCEPT RUBBER, N.E.C.[3]															
1977 Census--	159	192	127	24.8	171.4	21.8	38.2	135.1	333.7	269.3	594.8	10.6	(NA)	108.7	84	83
1976 ASM----	(NA)	(NA)	(NA)	24.3	169.3	21.2	37.7	133.6	357.1	288.1	638.0	7.4	100.2	94.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	23.5	154.0	20.0	36.9	118.3	317.9	247.9	574.7	6.6	97.4	86.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	29.6	178.7	25.5	46.5	140.2	333.3	260.1	589.4	9.1	99.6	98.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	28.8	165.2	25.3	46.8	130.6	302.4	231.9	524.6	10.1	77.5	96.0	(NA)	(NA)
1972 Census--	152	183	133	28.7	158.1	25.6	46.9	124.9	272.5	207.9	485.8	6.4	73.5	75.4	88	86

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3111, LEATHER TANNING AND FINISHING											
1977 Census--	11 056	(NA)	85	1 948	5.03	63	81	(NA)	23 215	47	14.01
1976 ASM----	10 604	9 960	84	1 963	4.76	61	79	17	22 656	46	13.67
1975 ASM----	9 777	9 502	85	1 979	4.35	58	79	19	19 711	49	11.67
1974 ASM----	8 953	8 737	84	1 934	3.99	63	81	17	18 331	48	11.23
1973 ASM----	7 970	8 923	84	1 909	3.65	68	86	19	14 354	55	8.88
1972 Census--	7 782	8 050	85	1 895	3.61	66	85	19	14 330	54	8.78
1971 ASM----	7 506	8 081	84	1 975	3.36	59	81	23	13 673	54	8.19
1970 ASM----	7 116	7 443	84	1 980	3.21	59	80	22	13 286	53	7.92
1969 ASM----	6 531	6 857	84	1 942	3.01	60	82	23	11 500	56	6.98
1968 ASM----	6 302	6 591	85	1 985	2.85	59	82	23	11 237	56	6.59
1967 Census--	6 071	6 342	85	2 000	2.69	62	84	22	10 403	58	6.04
1966 ASM----	5 785	(NA)	86	2 039	2.51	65	85	(NA)	9 981	57	5.67
1965 ASM----	5 625	(NA)	87	2 039	2.44	62	83	(NA)	10 218	55	5.74
1964 ASM----	5 416	6 108	86	2 014	2.40	61	82	24	9 621	56	5.49
1963 Census--	5 200	6 025	86	2 000	2.37	63	84	24	8 697	59	5.00
INDUSTRY 3131, BOOT AND SHOE CUT STOCK AND FINDINGS											
1977 Census--	7 700	(NA)	86	1 754	3.76	58	82	(NA)	12 890	59	8.44
1976 ASM----	7 261	4 892	86	1 780	3.63	63	87	16	11 202	64	7.23
1975 ASM----	6 743	(S)	83	1 753	3.56	64	88	(S)	9 538	70	6.52
1974 ASM----	6 323	(S)	86	1 677	3.36	66	87	(S)	10 558	59	7.25
1973 ASM----	5 835	(S)	87	1 810	2.76	57	79	(S)	11 247	51	7.13
1972 Census--	5 758	(S)	87	1 842	2.65	58	82	(S)	9 908	58	6.15
1971 ASM----	5 609	3 700	86	1 863	2.59	53	79	17	10 009	56	6.22
1970 ASM----	5 150	3 047	87	1 836	2.41	53	79	15	9 182	56	5.72
1969 ASM----	4 781	3 343	88	1 942	2.15	56	80	16	8 854	53	5.16
1968 ASM----	4 543	(S)	88	1 934	2.05	54	78	(S)	8 724	52	5.10
1967 Census--	4 372	(S)	89	1 860	2.01	58	81	(S)	7 970	54	4.81
1966 ASM----	4 496	(NA)	85	1 951	1.95	63	86	(NA)	7 200	62	4.31
1965 ASM----	4 234	(NA)	87	1 952	1.83	61	85	(NA)	6 758	62	3.95
1964 ASM----	3 818	1 811	87	1 925	1.60	56	79	11	7 057	54	4.18
1963 Census--	3 734	1 769	88	1 880	1.72	60	83	11	6 335	58	3.82
INDUSTRY 3142, HOUSE SLIPPERS											
1977 Census--	6 754	(NA)	86	1 688	3.36	46	73	(NA)	13 484	50	9.26
1976 ASM----	5 963	2 638	84	1 671	3.09	44	72	12	11 807	50	8.37
1975 ASM----	5 975	(S)	85	1 720	2.97	41	70	(S)	12 025	49	8.22
1974 ASM----	5 964	(S)	84	1 819	2.75	42	71	(S)	12 000	49	7.78
1973 ASM----	5 383	(S)	82	1 760	2.59	43	73	(S)	10 337	52	7.11
1972 Census--	5 658	(S)	83	1 788	2.62	43	75	(S)	10 082	56	6.74
1971 ASM----	4 889	1 761	85	1 741	2.32	42	72	10	9 284	52	6.24
1970 ASM----	4 787	2 035	86	1 785	2.23	43	74	13	8 982	53	5.80
1969 ASM----	4 776	1 696	88	1 828	2.27	44	75	10	8 607	55	5.32
1968 ASM----	4 706	1 698	87	1 911	2.16	45	77	11	7 896	59	4.69
1967 Census--	4 256	1 712	88	1 863	1.95	47	77	12	7 536	56	4.59
1966 ASM----	3 875	(NA)	85	1 871	1.79	47	80	(NA)	6 335	61	3.96
1965 ASM----	3 888	(NA)	89	1 787	1.80	47	80	(NA)	6 238	62	3.89
1964 ASM----	3 727	1 272	89	1 777	1.80	47	80	11	5 991	62	3.77
1963 Census--	3 618	1 300	90	1 747	1.75	47	79	11	5 872	61	3.73
INDUSTRY 3143, MEN'S FOOTWEAR, EXCEPT ATHLETIC											
1977 Census--	7 578	(NA)	89	1 832	3.68	50	74	(NA)	15 846	47	9.68
1976 ASM----	7 080	3 019	90	1 820	3.47	51	75	10	14 307	49	8.64
1975 ASM----	6 740	3 044	89	1 816	3.31	48	73	11	13 742	49	8.42
1974 ASM----	6 173	2 548	89	1 831	3.04	48	74	10	12 419	49	7.61
1973 ASM----	6 001	2 294	88	1 897	2.87	49	76	10	11 650	51	6.91
1972 Census--	5 822	2 052	88	1 954	2.71	48	76	9	10 965	53	6.34

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3144, WOMEN'S FOOTWEAR, EXCEPT ATHLETIC										
1977 Census--	6 752	(NA)	89	1 778	3.45	44	73	(NA)	13 118	51	8.27
1976 ASM----	6 509	2 427	88	1 802	3.27	46	75	11	11 926	54	7.44
1975 ASM----	6 104	2 685	89	1 768	3.06	44	75	13	11 110	54	7.02
1974 ASM----	5 652	2 491	89	1 771	2.90	44	74	12	10 630	53	6.71
1973 ASM----	5 441	2 188	90	1 802	2.73	43	72	11	10 540	51	6.47
1972 Census--	5 276	2 023	90	1 835	2.60	43	74	11	9 865	53	5.94
	INDUSTRY 3149, FOOTWEAR, EXCEPT RUBBER, N.E.C.										
1977 Census--	6 900	(NA)	87	1 757	3.53	45	74	(NA)	13 432	51	8.72
1976 ASM----	6 967	4 123	87	1 778	3.54	45	71	15	14 695	47	9.47
1975 ASM----	6 553	4 144	85	1 845	3.20	43	69	16	13 527	48	8.51
1974 ASM----	6 037	3 364	86	1 823	3.01	44	74	16	11 260	53	7.16
1973 ASM----	5 736	2 690	87	1 849	2.79	44	75	14	10 500	54	6.46
1972 Census--	5 508	2 560	89	1 832	2.66	42	75	15	9 494	58	5.81

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3111, LEATHER TANNING AND FINISHING														
United States	-	**465**	**191**	**23.0**	**254.8**	**19.6**	**38.2**	**192.2**	**535.1**	**927.6**	**1 456.1**	**30.7**	**25.7**	**368.3**
New England Division:														
Maine	-	13	8	2.0	21.5	1.7	3.4	15.4	46.3	93.2	138.2	(D)	1.9	25.5
New Hampshire	-	14	10	1.1	11.4	1.0	1.9	8.9	20.4	42.1	61.3	(D)	EE	(D)
Vermont	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Massachusetts	E1	110	42	3.1	33.0	2.6	4.8	23.9	57.5	129.9	189.9	3.2	4.0	55.3
Middle Atlantic Division:														
New York	E1	85	28	2.7	28.2	2.5	5.0	23.5	51.9	76.2	127.6	(D)	2.4	27.8
New Jersey	-	31	7	1.0	13.4	0.8	1.6	9.5	21.2	50.2	71.2	(D)	2.0	31.0
Pennsylvania	-	19	12	1.4	17.0	1.2	2.5	13.9	52.2	58.5	110.4	(D)	1.6	25.4
East North Central Division:														
Ohio	-	7	5	0.2	2.0	0.2	0.4	1.6	3.0	8.2	11.3	(D)	0.2	2.2
Illinois	-	14	5	0.8	10.5	0.7	1.4	8.2	20.3	24.8	45.0	(D)	EE	(D)
Michigan	-	8	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Wisconsin	-	24	19	3.1	39.2	2.6	5.0	28.4	78.4	141.7	218.6	(D)	3.4	59.5
West North Central Division:														
Minnesota	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Iowa	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Missouri	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Virginia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West Virginia	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.8
South Carolina	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central Division:														
Kentucky	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Tennessee	-	11	7	1.0	9.1	0.8	1.6	6.2	30.4	41.0	70.4	(D)	0.9	14.0
West South Central Division:														
Texas	E8	10	2	0.2	1.2	0.1	0.3	0.9	2.0	3.0	5.0	(D)	0.2	1.8
Pacific Division:														
California	-	36	13	1.7	20.8	1.5	3.0	15.7	41.6	68.2	108.8	(D)	1.6	22.8
Industry 3111-11, Tanneries														
United States	-	**315**	**124**	**16.8**	**192.3**	**14.3**	**28.3**	**144.9**	**417.8**	**742.8**	**1 155.8**	**23.3**	**(NA)**	**(NA)**
New England Division:														
Maine	-	8	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Hampshire	-	7	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	12.4
Vermont	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Massachusetts	E1	59	19	1.3	13.9	1.1	2.1	10.1	20.5	59.8	83.8	1.8	2.1	26.1
Middle Atlantic Division:														
New York	E1	52	12	1.3	14.1	1.2	2.7	11.7	26.5	55.2	81.8	1.2	1.1	13.4
New Jersey	-	24	7	0.9	12.8	0.8	1.5	9.2	20.6	46.5	66.5	(D)	1.3	24.1
Pennsylvania	-	17	11	1.3	16.1	1.1	2.3	13.1	50.5	58.1	108.3	1.1	1.4	23.8
East North Central Division:														
Ohio	-	6	4	0.2	1.6	0.2	0.3	1.3	2.5	7.7	10.4	(D)	(NA)	(NA)
Illinois	-	10	4	0.5	8.2	0.5	1.1	6.4	16.8	22.6	39.3	0.9	EE	(D)
Michigan	-	5	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Wisconsin	-	18	15	2.8	35.1	2.3	4.3	25.3	71.2	132.6	202.0	2.7	FF	(D)
West North Central Division:														
Minnesota	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Iowa	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West Virginia	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Carolina	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Tennessee	-	9	5	0.6	4.8	0.4	0.9	3.2	19.1	19.6	37.7	0.6	CC	(D)
Pacific Division:														
California	-	33	11	1.6	19.9	1.4	2.9	15.0	39.4	63.2	101.6	2.7	EE	(D)
Industry 3111-22, Converters														
United States	-	**43**	**10**	**1.0**	**11.7**	**0.7**	**1.4**	**6.5**	**36.0**	**132.6**	**167.9**	**1.7**	**(NA)**	**(NA)**
New England Division:														
Massachusetts	E1	15	3	0.2	3.3	0.2	0.3	1.5	12.3	57.0	68.6	0.6	0.4	12.7
East South Central Division:														
Tennessee	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 3111-33, Contract Tanneries														
United States	-	107	57	5.2	51.1	4.5	8.5	40.9	81.2	52.2	132.4	5.6	(NA)	(NA)
New England Division:														
Maine	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
New Hampshire	-	6	6	0.4	3.3	0.3	0.7	2.4	4.9	3.6	8.4	0.7	BB	(D)
Massachusetts	-	36	20	1.5	15.7	1.3	2.3	12.3	24.6	13.1	37.4	0.8	1.4	16.5
Middle Atlantic Division:														
New York	-	28	16	1.3	13.6	1.2	2.3	11.6	24.0	15.3	38.6	3.0	1.2	12.0
East North Central Division:														
Illinois	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Michigan	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Wisconsin	-	5	4	0.4	3.9	0.3	0.6	3.0	6.8	5.7	12.8	(D)	BB	(D)
INDUSTRY 3131, BOOT AND SHOE CUT STOCK AND FINDINGS														
United States	-	190	96	8.5	65.3	7.4	13.0	48.8	109.4	159.1	270.6	3.0	8.7	86.2
New England Division:														
Maine	-	14	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Hampshire	-	6	4	0.2	0.7	0.1	0.2	0.5	1.0	1.0	2.0	(D)	BB	(D)
Massachusetts	E1	66	31	2.3	20.8	1.9	3.5	14.0	40.9	61.4	102.4	0.7	2.8	30.7
Rhode Island	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Middle Atlantic Division:														
New York	E2	19	4	0.2	1.8	0.2	0.3	1.4	3.2	4.5	7.6	(D)	0.6	6.1
Pennsylvania	E2	12	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	6.1
East North Central Division:														
Indiana	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Wisconsin	-	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West North Central Division:														
Missouri	-	30	19	2.2	15.3	1.9	3.3	12.5	23.7	32.1	55.7	(D)	1.8	15.4
West South Central Division:														
Texas	-	6	3	0.2	1.6	0.2	0.3	1.1	4.7	7.7	12.2	(D)	(NA)	(NA)
Pacific Division:														
California	-	5	4	0.2	1.2	0.2	0.3	0.8	2.1	1.8	3.8	(D)	0.2	1.4
INDUSTRY 3142, HOUSE SLIPPERS														
United States	-	78	55	8.1	54.5	7.0	11.7	39.6	108.8	92.7	201.2	2.3	8.5	85.7
New England Division:														
Maine	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	3.3
Massachusetts	-	7	6	0.7	4.6	0.6	1.0	3.0	6.8	6.5	13.4	(D)	CC	(D)
Middle Atlantic Division:														
New York	-	21	14	2.2	14.3	2.0	3.5	11.0	28.6	25.0	53.1	(D)	FF	(D)
New Jersey	-	6	5	0.9	8.1	0.8	1.5	5.8	12.1	11.8	23.9	(D)	CC	(D)
Pennsylvania	E1	9	5	0.9	6.2	0.8	1.3	4.8	8.9	8.1	16.9	0.1	CC	(D)
East North Central Division:														
Ohio	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Illinois	-	4	3	0.3	2.1	0.3	0.4	1.4	5.0	8.7	13.7	(D)	AA	(D)
South Atlantic Division:														
North Carolina	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	-	4	4	0.4	2.7	0.4	0.5	1.9	5.1	6.7	12.3	(D)	AA	(D)
East South Central Division:														
Tennessee	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Arkansas	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Texas	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
INDUSTRY 3143, MEN'S FOOTWEAR, EXCEPT ATHLETIC														
United States	-	213	180	55.0	417.0	49.2	90.1	332.2	871.9	880.0	1 734.5	14.5	61.5	674.4
New England Division:														
Maine	-	21	17	5.7	42.7	5.1	9.1	32.6	89.8	85.9	175.4	1.2	7.1	70.0
New Hampshire	-	11	10	2.3	16.5	2.0	3.5	13.2	32.4	34.3	64.8	0.6	FF	(D)
Massachusetts	-	22	15	4.2	34.1	3.7	6.5	24.2	68.5	64.7	129.3	1.0	FF	(D)
Middle Atlantic Division:														
New York	-	9	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Jersey	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	18	17	4.1	30.5	3.8	7.5	26.8	57.8	72.3	127.4	1.0	FF	(D)
East North Central Division:														
Ohio	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Illinois	-	7	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Michigan	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Wisconsin	-	20	19	4.9	42.7	3.7	7.7	29.5	107.9	82.2	191.6	(D)	7.7	90.4

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3143, MEN'S FOOTWEAR, EXCEPT ATHLETIC—Con.														
West North Central Division:														
Minnesota	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Missouri	-	12	12	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
South Atlantic Division:														
Maryland	E6	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Virginia	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West Virginia	E1	4	4	1.4	9.0	1.4	2.5	8.5	19.9	20.6	40.3	(D)	CC	(D)
North Carolina	-	8	8	2.6	19.1	2.3	4.3	14.5	33.9	42.5	76.7	0.7	1.9	13.3
Georgia	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.7	22.6
East South Central Division:														
Kentucky	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Tennessee	-	20	19	7.5	53.5	7.0	13.2	45.2	123.7	115.0	234.7	(D)	FF	(D)
Alabama	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Arkansas	-	6	6	2.5	16.0	2.3	3.7	14.2	31.3	37.0	67.5	0.3	EE	(D)
Texas	E3	15	9	2.2	15.8	1.9	3.6	12.0	34.0	34.5	65.9	(D)	EE	(D)
Mountain Division:														
Colorado	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	8	4	0.4	3.6	0.4	0.7	2.4	12.1	7.0	19.0	(D)	BB	(D)
INDUSTRY 3144, WOMEN'S FOOTWEAR, EXCEPT ATHLETIC														
United States	-	**328**	**241**	**57.6**	**388.6**	**51.3**	**91.3**	**315.6**	**755.0**	**607.1**	**1 361.2**	**9.7**	**77.4**	**763.6**
New England Division:														
Maine	-	30	26	8.2	57.8	7.3	13.3	44.3	101.2	83.7	180.1	(D)	8.0	56.2
New Hampshire	-	27	22	6.7	43.9	5.9	9.7	33.1	83.7	68.7	148.4	(D)	7.3	64.4
Massachusetts	-	37	25	5.1	36.3	4.6	8.1	29.3	62.8	65.9	129.8	(D)	8.2	71.2
Connecticut	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Middle Atlantic Division:														
New York	-	39	23	3.4	23.8	2.9	5.1	18.1	40.6	28.6	70.3	(D)	5.3	54.7
Pennsylvania	-	28	25	4.9	33.2	4.4	7.7	27.1	57.6	47.8	104.6	1.2	9.5	78.7
East North Central Division:														
Ohio	-	8	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Indiana	-	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Michigan	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Wisconsin	-	6	5	0.4	2.2	0.3	0.6	2.1	3.6	3.4	7.4	(Z)	0.6	4.4
West North Central Division:														
Missouri	-	24	22	6.4	41.5	5.9	9.8	35.5	92.3	80.7	172.7	0.4	FF	(D)
South Atlantic Division:														
Virginia	-	6	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West Virginia	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Florida	E1	12	3	0.3	3.4	0.3	0.7	2.2	3.8	3.5	7.4	(Z)	1.0	7.5
East South Central Division:														
Kentucky	-	8	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Tennessee	-	7	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.8	33.8
Mississippi	-	5	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West South Central Division:														
Arkansas	-	13	12	3.2	21.1	2.9	5.2	17.1	35.7	27.5	62.1	0.1	4.1	37.0
Texas	-	9	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	4.7
Pacific Division:														
California	-	37	24	4.4	32.0	4.0	7.7	26.5	53.1	41.4	93.2	(D)	2.5	22.8
INDUSTRY 3149, FOOTWEAR, EXCEPT RUBBER, N.E.C.														
United States	-	**192**	**127**	**24.8**	**171.4**	**21.8**	**38.2**	**135.1**	**333.7**	**269.3**	**594.8**	**10.6**	**28.7**	**272.5**
New England Division:														
Maine	-	12	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.3	15.4
New Hampshire	-	6	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Massachusetts	-	22	17	3.6	31.5	2.9	5.1	21.9	49.5	62.0	108.3	1.7	FF	(D)
Middle Atlantic Division:														
New York	E5	18	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.0	20.3
New Jersey	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	24	22	4.4	28.5	3.8	7.1	24.0	49.9	40.7	89.4	(D)	4.7	36.2
East North Central Division:														
Illinois	-	6	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Wisconsin	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West North Central Division:														
Missouri	-	21	19	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3149, FOOTWEAR, EXCEPT RUBBER, N.E.C.—Con.														
South Atlantic Division:														
Maryland	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West Virginia	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	E6	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Florida	-	7	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East South Central Division:														
Tennessee	-	10	10	2.9	19.2	2.7	4.7	16.9	49.3	33.1	80.5	0.9	FF	(D)
West South Central Division:														
Arkansas	-	6	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Pacific Division:														
California	E1	12	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Leather tanning and finishing (SIC 3111)				Boot and shoe cut stock and findings (SIC 3131)	House slippers (SIC 3142)	Men's footwear, except athletic (SIC 3143)	Women's footwear, except athletic (SIC 3144)	Footwear, except rubber, n.e.c. (SIC 3149)
		Total	Tanneries (SIC 3111-11)	Converters (SIC 3111-22)	Contract tanneries (SIC 3111-33)					
Primary product specialization ratio[1]	percent	99	(NA)	(NA)	(NA)	90	94	92	97	84
Coverage ratio[2]	do	99	(NA)	(NA)	(NA)	92	96	96	92	83
All establishments	number	465	315	43	107	190	78	213	328	192
With 1 to 19 employees	do	274	191	33	50	94	23	33	87	65
With 20 to 99 employees	do	129	76	8	45	74	31	29	68	50
With 100 employees or more	do	62	48	2	12	22	24	151	173	77
All employees, average for year	1,000	23.0	16.8	1.0	5.2	8.5	8.1	55.0	57.6	24.8
Payroll for year, all employees	mil. dol.	254.8	192.3	11.4	51.1	65.3	54.5	417.0	388.6	171.4
Production workers:										
Average for year	1,000	19.6	14.3	0.7	4.5	7.4	7.0	49.2	51.3	21.8
March	do	19.6	14.3	0.7	4.6	7.3	6.5	49.3	50.8	21.4
May	do	19.8	14.4	0.7	4.7	7.6	7.0	49.7	52.2	22.2
August	do	19.5	14.3	0.7	4.5	7.3	7.2	48.1	52.3	21.3
November	do	19.4	14.3	0.7	4.4	7.4	7.0	49.5	50.0	22.1
Hours	millions	38.2	28.3	1.4	8.5	13.0	11.7	90.1	91.3	38.2
January to March	do	9.6	7.1	0.3	2.2	3.2	2.5	22.3	22.6	9.3
April to June	do	9.9	7.3	0.4	2.3	3.3	3.1	22.8	23.7	9.9
July to September	do	9.3	6.8	0.3	2.1	3.1	3.0	21.6	22.4	9.2
October to December	do	9.4	7.1	0.4	1.9	3.3	3.1	23.3	22.6	9.9
Wages	mil. dol.	192.2	144.9	6.5	40.9	48.6	39.6	332.2	315.6	135.1
Cost of materials, etc.	do	927.6	742.8	132.6	52.2	159.1	92.7	880.0	607.1	269.3
Materials, parts, containers, etc., consumed	do	830.2	691.8	96.0	42.5	152.5	83.3	795.7	553.5	240.9
Resales	do	11.0	9.9	1.1	(Z)	(D)	(D)	56.1	28.1	22.3
Fuels consumed	do	24.8	19.2	0.7	4.9	1.6	0.5	2.6	2.5	1.0
Purchased electric energy	do	12.5	9.6	0.4	2.5	2.0	1.4	8.6	7.7	3.7
Contract work	do	49.0	12.3	34.4	2.2	(D)	(D)	17.0	15.3	1.4
Value of shipments, including resales	do	1 456.1	1 155.8	167.9	132.4	270.6	201.2	1 734.5	1 361.2	594.8
Value added by manufacture	do	535.1	417.8	36.0	81.2	109.4	108.8	871.9	755.0	333.7
Manufacturers' inventories:										
Beginning of year	do	176.1	143.5	22.1	10.5	33.0	28.9	245.6	148.3	96.0
Finished products	do	43.8	35.8	6.6	1.4	11.5	14.1	103.9	59.9	52.9
Work in process	do	83.5	68.8	9.7	5.0	4.9	3.1	42.2	38.3	15.8
Materials, supplies, fuel, etc.	do	48.9	38.9	5.8	4.2	16.6	11.7	99.5	50.0	27.3
End of year	do	187.6	148.9	25.0	13.6	31.2	29.7	272.2	147.4	108.7
Finished products	do	45.2	37.2	6.7	1.3	9.2	13.8	117.4	59.4	59.4
Work in process	do	88.5	72.3	10.3	6.0	5.0	3.7	46.1	39.9	17.5
Materials, supplies, fuel, etc.	do	53.9	39.5	8.1	6.3	16.9	12.2	108.7	48.1	31.9
Capital expenditures for plant and equipment	do	31.8	24.1	1.8	6.0	3.4	2.6	17.4	11.7	12.0
New capital expenditures	do	30.7	23.3	1.7	5.6	3.0	2.3	14.5	9.7	10.6
New buildings and other structures	do	6.8	5.7	0.1	0.9	0.8	0.7	3.4	2.1	2.8
New machinery and equipment	do	23.9	17.6	1.6	4.7	2.2	1.6	11.0	7.6	7.8
Used capital expenditures	do	1.2	0.8	(Z)	0.4	0.4	0.3	2.9	2.0	1.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Leather tanning and finishing (SIC 3111)		Boot and shoe cut stock and findings (SIC 3131)		House slippers (SIC 3142)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	3.4	10	(0.5)	17	0.1	1
Response coverage ratio[2] (percent)	60.6	(X)	50.6	(X)	61.5	(X)
Machinery	12.2	14	(1.4)	37	0.3	11
Response coverage ratio[2] (percent)	61.1	(X)	61.5	(X)	69.0	(X)
Cost of purchased communication services	2.1	9	(0.6)	42	(0.1)	38
Response coverage ratio[2] (percent)	63.5	(X)	68.8	(X)	70.3	(X)
Rental payments	5.6	12	1.4	13	1.3	8
Buildings and other structures	(3.1)	17	(0.7)	19	0.9	10
Machinery and equipment	2.6	13	0.7	10	(0.4)	18
Supplemental labor costs	45.8	2	10.1	5	8.7	1
Legal costs	22.8	3	5.7	4	4.3	1
Voluntary costs	23.0	3	4.4	7	4.4	1
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	70.1	6	18.1	10	8.0	4
New capital expenditures	(7.5)	19	(1.2)	38	0.7	2
Used capital expenditures	(1.2)	67	(0.1)	57	-	(X)
Retirements	(1.1)	45	1.0	6	0.1	7
End of year	77.6	6	18.4	10	8.6	4
Machinery and equipment:						
Beginning of year	143.5	5	31.7	10	16.7	12
New capital expenditures[3]	31.2	13	(1.7)	23	1.3	4
Automobiles, trucks, etc., for highway use[3]	(1.0)	(A)	0.1	(A)	(Z)	(A)
Computers and peripheral data processing equipment[3]	(0.7)	(A)	-	(X)	(Z)	(A)
All other[3]	(20.3)	(A)	(1.5)	(A)	(0.3)	(A)
New machinery and equipment, n.s.k.[4]	(9.2)	(A)	(0.2)	(A)	(1.0)	(A)
Used capital expenditures	(1.1)	25	(0.4)	21	-	(X)
Retirements	(5.2)	26	2.7	8	0.8	13
End of year	170.7	4	31.1	11	17.2	11
Total gross value of depreciable assets:						
Beginning of year	213.6	5	49.7	9	24.7	7
New capital expenditures	38.7	14	(2.9)	25	2.0	3
Used capital expenditures	(2.3)	38	(0.5)	20	-	(X)
Retirements	(6.3)	29	3.6	8	0.9	11
End of year	248.3	4	49.4	10	25.8	7
Depreciation charges during 1977	18.0	9	3.2	9	1.7	10
Buildings and other structures	(4.2)	17	0.8	12	0.2	6
Machinery and equipment	13.8	8	2.4	10	1.5	12

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Men's footwear, except athletic (SIC 3143)		Women's footwear, except athletic (SIC 3144)		Footwear, except rubber, n.e.c. (SIC 3149)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	2.1	10	1.9	12	(0.6)	20
Response coverage ratio[2] (percent)	57.5	(X)	66.0	(X)	60.3	(X)
Machinery	6.6	11	(4.5)	20	(1.9)	15
Response coverage ratio[2] (percent)	62.7	(X)	65.5	(X)	61.7	(X)
Cost of purchased communication services	(2.7)	21	(1.7)	18	1.0	12
Response coverage ratio[2] (percent)	61.6	(X)	45.1	(X)	62.3	(X)
Rental payments	17.0	1	12.6	3	5.3	9
Buildings and other structures	4.1	2	(4.0)	16	(1.5)	22
Machinery and equipment	12.9	2	8.6	7	3.9	9
Supplemental labor costs	64.0	1	58.8	4	24.4	3
Legal costs	33.4	1	34.2	1	13.9	1
Voluntary costs	30.6	1	24.6	9	10.5	6
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	65.7	1	55.0	7	35.8	7
New capital expenditures	3.4	3	(2.6)	22	(5.3)	59
Used capital expenditures	1.2	1	(0.7)	24	0.5	1
Retirements	1.5	2	2.5	5	1.0	6
End of year	68.9	1	55.8	6	40.6	10
Machinery and equipment:						
Beginning of year	113.9	1	82.2	3	58.2	4
New capital expenditures[3]	10.9	1	(9.5)	15	6.7	5
Automobiles, trucks, etc., for highway use[3]	(0.2)	(A)	(0.1)	(A)	(0.1)	(A)
Computers and peripheral data processing equipment[3]	(0.2)	(A)	(0.2)	(A)	(0.6)	(A)
All other[3]	(9.3)	(A)	(5.6)	(A)	(4.9)	(A)
New machinery and equipment, n.s.k.[4]	(1.1)	(A)	(3.6)	(A)	(1.1)	(A)
Used capital expenditures	1.6	1	1.2	1	1.0	12
Retirements	7.0	2	4.7	9	6.5	11
End of year	119.4	1	88.2	2	59.4	4
Total gross value of depreciable assets:						
Beginning of year	179.7	1	137.2	4	94.0	4
New capital expenditures	14.3	1	12.2	13	(12.0)	(28)
Used capital expenditures	2.9	1	1.9	9	1.5	9
Retirements	8.6	1	7.2	7	7.5	10
End of year	188.3	1	144.0	3	100.0	5
Depreciation charges during 1977	14.0	2	9.4	4	6.9	4
Buildings and other structures	2.9	4	2.3	6	1.4	8
Machinery and equipment	11.1	2	7.1	4	5.5	5

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3111, LEATHER TANNING AND FINISHING												
Total	-	465	23.0	254.8	19.6	38.2	192.2	535.1	927.6	1 456.1	30.7	167.6
Establishments with an average of—												
1 to 4 employees	E7	143	0.2	2.4	0.2	0.4	1.7	4.5	9.7	15.1	0.3	1.7
5 to 9 employees	E2	64	0.4	4.5	0.4	0.7	3.0	10.4	28.5	39.0	0.3	4.1
10 to 19 employees	E1	67	0.9	9.6	0.7	1.4	6.2	21.6	56.4	77.3	0.5	9.9
20 to 49 employees	E1	74	2.4	24.0	2.0	3.8	17.2	48.2	96.0	143.9	3.2	19.3
50 to 99 employees	-	55	4.0	42.5	3.5	6.8	32.0	69.9	136.3	209.8	5.1	21.2
100 to 249 employees	-	38	6.1	68.5	5.3	10.5	52.7	145.1	217.8	359.2	8.6	44.3
250 to 499 employees	-	20	(8.9)	(103.3)	(7.6)	(14.6)	(79.4)	(235.4)	(383.0)	(611.9)	(12.6)	(87.0)
500 to 999 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	154	0.5	4.7	0.5	0.8	3.5	8.7	15.2	23.9	0.5	3.0
Industry 3111-11, Tanneries												
Total	-	315	16.8	192.3	14.3	28.3	144.9	417.8	742.8	1 155.8	23.3	148.9
Establishments with an average of—												
1 to 4 employees	E7	121	0.2	1.9	0.2	0.3	1.4	3.5	8.4	12.9	0.2	1.5
5 to 9 employees	E7	41	0.3	2.6	0.2	0.5	2.0	5.4	7.7	13.1	0.3	1.6
10 to 19 employees	E4	29	0.4	4.0	0.3	0.7	3.0	8.2	13.2	21.4	0.3	2.5
20 to 49 employees	E1	43	1.4	13.7	1.1	2.2	9.6	25.4	46.4	72.3	1.4	7.4
50 to 99 employees	-	33	2.4	27.2	2.1	4.1	19.8	44.7	115.5	164.1	3.2	17.6
100 to 249 employees	-	27	(12.2)	(142.9)	(10.4)	(20.5)	(109.1)	(330.6)	(551.5)	(872.1)	(17.9)	(118.3)
250 to 499 employees	-	18	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	134	0.4	4.0	0.4	0.7	3.0	8.0	14.1	22.1	0.5	2.8
Industry 3111-22, Converters												
Total	-	43	1.0	11.4	0.7	1.4	6.5	36.0	132.6	167.9	1.7	25.0
Establishments with an average of—												
1 to 4 employees	E8	9	(Z)	0.1	(Z)	(Z)	0.1	0.2	0.8	1.0	(0.1)	0.1
5 to 9 employees	-	9	0.1	0.9	(Z)	0.1	0.2	3.6	20.3	24.0	(D)	2.3
10 to 19 employees	-	15	0.2	2.8	0.1	0.2	1.0	9.1	40.2	48.8	(D)	6.7
20 to 49 employees	E2	7	(0.8)	(7.6)	(0.6)	(1.1)	(5.2)	(23.2)	(71.2)	(94.1)	(1.6)	(15.9)
50 to 99 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	-	-	-	-	-	-	-	-	-	-	-
Covered by administrative records[2]	E0	8	(Z)	0.1	(Z)	(Z)	(Z)	0.1	0.7	0.8	(D)	0.1
Industry 3111-33, Contract Tanneries												
Total	-	107	5.2	51.1	4.5	8.5	40.9	81.2	52.2	132.4	5.6	13.6
Establishments with an average of—												
1 to 4 employees	E3	13	(Z)	0.4	(Z)	0.1	0.3	0.8	0.4	1.2	(0.1)	0.1
5 to 9 employees	E2	14	0.1	0.9	0.1	0.2	0.8	1.4	0.5	1.9	(D)	0.2
10 to 19 employees	-	23	0.3	2.9	0.3	0.5	2.2	4.3	2.9	7.1	(D)	0.7
20 to 49 employees	E1	24	0.8	7.6	0.7	1.3	5.9	12.9	6.1	18.4	1.1	2.1
50 to 99 employees	-	21	1.5	14.6	1.3	2.6	11.6	23.3	14.4	37.5	1.8	3.0
100 to 249 employees	-	10	(2.4)	(24.8)	(2.1)	(3.9)	(20.0)	(38.6)	(27.9)	(66.3)	(2.6)	(7.6)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	12	(Z)	0.5	(Z)	0.1	0.4	0.6	0.4	0.9	(Z)	0.1
INDUSTRY 3131, BOOT AND SHOE CUT STOCK AND FINDINGS												
Total	-	190	8.5	65.3	7.4	13.0	48.8	109.4	159.1	270.6	3.0	31.2
Establishments with an average of—												
1 to 4 employees	E9	41	0.1	0.6	0.1	0.1	0.4	0.9	1.2	2.1	(Z)	0.2
5 to 9 employees	E5	29	0.2	1.7	0.2	0.3	1.2	2.6	3.6	6.2	0.1	0.6
10 to 19 employees	E2	24	0.3	2.4	0.3	0.5	1.8	5.0	5.7	10.7	0.1	1.0
20 to 49 employees	E1	44	1.5	10.6	1.3	2.2	7.8	19.7	35.0	54.1	0.4	5.2
50 to 99 employees	-	30	2.0	15.3	1.7	3.0	10.7	26.2	46.2	74.8	0.7	7.9
100 to 249 employees	-	16	2.4	20.1	2.1	3.7	14.0	34.5	44.7	79.3	0.8	11.5
250 to 499 employees	-	6	2.0	14.8	1.7	3.2	12.7	20.6	22.6	43.5	0.9	4.8
Covered by administrative records[2]	E0	58	0.2	1.7	0.2	0.4	1.3	2.6	3.8	6.5	0.1	0.7
INDUSTRY 3142, HOUSE SLIPPERS												
Total	-	78	8.1	54.5	7.0	11.7	39.6	108.8	92.7	201.2	2.3	29.7
Establishments with an average of—												
1 to 4 employees	E5	9	(Z)	0.1	(Z)	(Z)	0.1	(Z)	0.5	0.8	(0.1)	0.1
5 to 9 employees	E1	7	(Z)	0.4	(Z)	0.1	0.2	1.1	2.9	4.0	(D)	0.4
10 to 19 employees	E3	7	0.1	0.7	0.1	0.2	0.6	1.2	0.9	2.1	(D)	0.3
20 to 49 employees	E2	15	0.5	3.1	0.5	0.8	2.5	5.9	4.3	9.9	(D)	1.2
50 to 99 employees	-	16	1.1	7.5	1.0	1.7	5.5	14.3	13.8	27.9	0.2	3.9
100 to 249 employees	-	15	2.8	17.0	2.5	4.0	13.5	32.1	34.6	67.2	(2.0)	8.3
250 to 499 employees	-	8	(3.5)	(25.7)	(2.9)	(5.0)	(17.3)	(54.3)	(35.8)	(89.3)	(D)	(15.4)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	13	0.1	0.5	0.1	0.1	0.3	1.0	0.8	1.7	(Z)	0.3

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3143, MEN'S FOOTWEAR, EXCEPT ATHLETIC												
Total	-	**213**	**55.0**	**417.0**	**49.2**	**90.1**	**332.2**	**871.9**	**880.0**	**1 734.5**	**14.5**	**272.2**
Establishments with an average of—												
1 to 4 employees	E7	17	(Z)	0.2	(Z)	(Z)	0.1	0.3	0.4	0.8	(Z)	0.1
5 to 9 employees	E0	7	(Z)	0.3	(Z)	0.1	0.3	0.6	0.7	1.3	(Z)	0.2
10 to 19 employees	E4	9	0.1	1.2	0.1	0.2	1.0	2.6	1.8	4.6	(Z)	0.5
20 to 49 employees	-	15	0.5	4.2	0.4	0.8	3.4	6.4	5.9	12.4	0.2	1.9
50 to 99 employees	-	14	1.0	6.6	0.8	1.5	5.3	13.6	9.8	23.8	0.2	4.2
100 to 249 employees	-	53	9.8	74.6	8.9	16.4	60.7	150.3	155.8	302.5	1.8	45.9
250 to 499 employees	-	76	27.4	192.6	25.6	45.7	164.5	416.1	416.7	827.5	7.7	102.5
500 to 999 employees	-	19	11.9	89.2	10.0	19.4	69.9	204.5	204.8	402.2	3.4	78.7
1,000 to 2,499 employees	-	3	4.2	48.1	3.1	6.0	27.0	77.6	84.0	159.4	1.2	38.2
Covered by administrative records[2]	E0	23	0.2	1.4	0.2	0.3	1.1	2.6	2.8	5.3	0.1	0.8
INDUSTRY 3144, WOMEN'S FOOTWEAR, EXCEPT ATHLETIC												
Total	-	**328**	**57.6**	**388.6**	**51.3**	**91.3**	**315.6**	**755.0**	**607.1**	**1 361.2**	**9.7**	**147.4**
Establishments with an average of—												
1 to 4 employees	E9	52	0.1	0.5	0.1	0.1	0.4	(S)	0.7	1.6	(0.3)	0.2
5 to 9 employees	E9	19	0.1	0.8	0.1	0.2	0.7	1.1	1.1	2.4	(D)	0.3
10 to 19 employees	E8	15	0.2	1.4	0.2	0.3	1.1	2.3	1.9	4.2	(D)	0.4
20 to 49 employees	E3	31	1.0	6.8	0.9	1.7	5.7	10.7	10.5	21.7	(D)	2.5
50 to 99 employees	-	38	2.7	18.0	2.3	3.9	13.9	30.6	34.6	65.6	0.6	8.7
100 to 249 employees	-	69	11.5	73.3	10.2	17.7	57.2	140.3	110.6	250.4	1.8	23.5
250 to 499 employees	-	90	32.7	217.1	29.2	51.7	181.5	452.1	356.0	803.3	(6.9)	82.0
500 to 999 employees	-	14	9.3	70.7	8.3	15.6	55.1	125.9	91.7	212.0	(D)	29.9
Covered by administrative records[2]	E0	68	0.4	2.8	0.4	0.7	2.3	4.7	4.1	8.9	(Z)	0.9
INDUSTRY 3149, FOOTWEAR, EXCEPT RUBBER, N.E.C.												
Total	-	**192**	**24.8**	**171.4**	**21.8**	**38.2**	**135.1**	**333.7**	**269.3**	**594.8**	**10.6**	**108.7**
Establishments with an average of—												
1 to 4 employees	E7	37	0.1	0.5	0.1	0.1	0.4	0.7	0.8	1.9	(Z)	0.3
5 to 9 employees	E8	15	0.1	0.6	0.1	0.1	0.5	1.1	0.9	2.0	(Z)	0.3
10 to 19 employees	E3	13	0.2	1.5	0.2	0.3	1.1	2.7	1.8	4.4	0.1	0.6
20 to 49 employees	E1	20	0.6	4.6	0.5	0.9	3.5	7.5	4.7	11.8	0.3	2.1
50 to 99 employees	-	30	2.1	13.1	1.8	2.8	9.7	25.2	17.2	42.2	0.5	7.4
100 to 249 employees	-	38	6.8	46.1	6.1	10.5	36.3	94.0	70.7	162.3	2.3	28.1
250 to 499 employees	-	33	10.8	74.1	9.5	16.9	61.1	159.2	125.7	281.8	4.5	42.5
500 to 999 employees	-	6	4.1	30.8	3.5	6.5	22.5	43.2	47.5	88.3	2.8	27.5
Covered by administrative records[2]	E0	47	0.3	1.8	0.2	0.4	1.4	3.6	2.9	6.5	0.1	1.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3111	**Leather tanning and finishing:**										
	Entire industry	465	23.0	254.8	19.6	38.2	192.2	535.1	927.6	1 456.1	30.7
	Establishments with 75 percent specialization or more	443	21.3	239.2	18.2	35.4	180.5	505.3	900.3	1 398.4	29.6
31111	Finished cattle hide and kip side leathers:										
	Establishments with this product class primary	116	13.8	161.7	11.7	23.3	120.7	367.8	722.9	1 085.6	18.2
	Establishments with 75 percent specialization or more in class	102	12.1	145.9	10.2	20.0	107.6	333.9	649.6	981.0	16.5
31112	Finished calf and whole kip leathers:										
	Establishments with this product class primary	6	0.5	4.7	0.4	0.6	3.3	7.9	20.9	28.3	0.2
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
31113	Finished sheep and lamb leathers:										
	Establishments with this product class primary	20	1.5	15.8	1.3	2.5	12.2	30.6	58.5	87.3	1.9
	Establishments with 75 percent specialization or more in class	18	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
31114	Other finished leather:										
	Establishments with this product class primary	17	0.6	6.2	0.5	0.9	4.1	14.1	11.1	25.7	(D)
	Establishments with 75 percent specialization or more in class	14	0.4	4.4	0.3	0.7	3.1	7.0	7.7	14.9	(D)
31115	Rough, russet, and crust leather:										
	Establishments with this product class primary	8	0.5	5.6	0.4	0.8	4.4	12.1	24.9	37.1	(D)
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
31119	Contract receipts for tanning and finishing leather:										
	Establishments with this product class primary	78	3.7	37.6	3.2	5.9	29.5	63.2	39.2	101.8	5.2
	Establishments with 75 percent specialization or more in class	77	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3131	**Boot and shoe cut stock and findings:**										
	Entire industry	190	8.5	65.3	7.4	13.0	48.8	109.4	159.1	270.6	3.0
	Establishments with 75 percent specialization or more	177	6.7	51.8	5.9	10.3	38.0	88.6	137.8	228.6	2.2
3142	**House slippers:**										
	Entire industry	78	8.1	54.5	7.0	11.7	39.6	108.8	92.7	201.2	2.3
	Establishments with 75 percent specialization or more	67	6.6	44.6	5.7	9.7	32.5	93.6	73.6	166.0	(D)
3143	**Men's footwear, except athletic:**										
	Entire industry	213	55.0	417.0	49.2	90.1	332.2	871.9	880.0	1 734.5	14.5
	Establishments with 75 percent specialization or more	183	46.6	350.2	41.6	75.7	281.4	724.9	754.8	1 472.2	12.1
31433	Men's work shoes and boots:										
	Establishments with this product class primary	36	11.9	96.4	10.7	19.6	74.5	201.1	240.3	439.6	2.2
	Establishments with 75 percent specialization or more in class	30	9.5	78.7	8.4	15.3	58.8	159.4	193.3	351.7	2.1
31434	Men's dress and casual boots, except work:										
	Establishments with this product class primary	31	8.6	66.4	7.8	14.6	52.4	138.8	142.2	273.7	2.6
	Establishments with 75 percent specialization or more in class	17	3.6	26.3	3.2	6.1	22.3	55.2	58.3	115.6	1.6
31435	Men's dress and casual shoes, except athletic:										
	Establishments with this product class primary	104	33.1	244.9	29.5	53.8	197.7	515.4	480.8	987.7	9.4
	Establishments with 75 percent specialization or more in class	71	23.0	166.9	20.8	36.7	136.7	350.1	321.7	665.3	6.4
3144	**Women's footwear, except athletic:**										
	Entire industry	328	57.6	388.6	51.3	91.3	315.6	755.0	607.1	1 361.2	9.7
	Establishments with 75 percent specialization or more	300	55.1	373.2	49.1	87.5	302.7	737.0	582.4	1 310.6	9.4
31445	Women's boots, ankle height and higher:										
	Establishments with this product class primary	24	6.2	43.2	5.7	10.2	37.0	103.1	76.6	177.2	1.4
	Establishments with 75 percent specialization or more in class	16	2.9	20.0	2.7	4.7	17.2	51.2	36.5	89.7	0.7
31446	Women's sandals:										
	Establishments with this product class primary	22	4.5	31.0	4.1	7.6	25.6	53.0	36.0	88.5	0.8
	Establishments with 75 percent specialization or more in class	14	1.9	12.2	1.7	3.1	9.1	19.3	13.9	33.2	(D)
31447	Women's casual shoes, except sandals:										
	Establishments with this product class primary	90	22.6	155.1	20.1	35.2	122.8	303.6	257.3	555.7	3.0
	Establishments with 75 percent specialization or more in class	68	17.2	115.6	15.2	26.4	92.2	217.4	193.4	409.0	2.2
31448	Women's dress shoes:										
	Establishments with this product class primary	77	20.4	135.8	18.0	32.1	110.5	268.0	214.3	482.1	2.8
	Establishments with 75 percent specialization or more in class	58	15.9	105.9	13.8	24.5	85.2	208.8	161.1	368.1	2.3
3149	**Footwear, except rubber, n.e.c.:**										
	Entire industry	192	24.8	171.4	21.8	38.2	135.1	333.7	269.3	594.8	10.6
	Establishments with 75 percent specialization or more	166	19.0	130.5	16.4	28.4	101.5	248.3	202.1	445.3	8.7
31491	Youths' and boys' shoes (except rubber), except athletic:										
	Establishments with this product class primary	19	4.8	31.5	4.5	8.3	26.6	67.7	44.4	110.1	1.7
	Establishments with 75 percent specialization or more in class	3	0.9	4.8	0.8	1.5	4.3	10.1	6.1	16.2	(D)
31493	Infants' and babies' shoes, except rubber:										
	Establishments with this product class primary	28	4.5	30.3	3.8	6.5	23.3	49.9	35.4	85.7	2.4
	Establishments with 75 percent specialization or more in class	14	1.7	12.2	1.5	2.4	8.8	21.4	11.9	33.3	0.5
31495	Misses' and preteens' shoes (except rubber), except athletic:										
	Establishments with this product class primary	21	5.2	34.2	4.6	7.8	27.3	68.5	50.7	118.9	0.6
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
31496	Children's shoes (except rubber), except athletic:										
	Establishments with this product class primary	18	3.9	30.0	3.4	6.1	23.2	48.9	53.8	99.6	2.8
	Establishments with 75 percent specialization or more in class	5	0.5	3.3	0.4	0.7	2.5	7.1	4.1	11.3	(D)
31497	Other footwear (including athletic), except rubber:										
	Establishments with this product class primary	33	4.9	36.4	4.2	7.5	27.8	81.7	70.1	149.1	2.4
	Establishments with 75 percent specialization or more in class	23	2.7	20.0	2.4	4.1	15.0	41.1	36.2	76.7	1.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.
[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3111	Leather tanning and finishing	1977	1,456.1	1,373.5	18.2	64.4	99	1,380.1	1,373.5	6.6	99
		1972	1,059.5	1,018.2	11.2	30.1	99	1,026.4	1,018.2	8.2	99
		1967	870.1	838.9	14.2	17.0	98	846.2	838.9	7.3	99
3131	Boot and shoe cut stock and findings	1977	270.6	235.7	27.3	7.6	90	255.1	235.7	19.4	92
		1972	206.5	186.9	11.5	8.1	94	196.1	186.9	9.2	95
		1967	262.8	235.3	15.2	12.3	94	254.3	235.3	19.0	93
3142	House slippers	1977	201.2	183.4	11.1	6.7	94	190.2	183.4	6.8	96
		1972	151.4	138.8	5.4	7.2	95	159.4	138.8	20.6	87
		1967	181.0	151.2	12.4	17.4	92	162.3	151.2	11.1	93
3143	Men's footwear, except athletic	1977	1,734.5	1,525.1	134.2	75.2	92	1,592.1	1,525.1	67.0	96
		[1]1972	1,288.9	1,145.0	87.7	56.2	93	1,181.3	1,145.0	36.3	97
		[1]1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3144	Women's footwear, except athletic	1977	1,361.2	1,269.2	44.4	47.6	97	1,386.8	1,269.2	117.6	92
		[1]1972	1,346.1	1,240.2	36.8	69.1	97	1,348.3	1,240.2	108.1	92
		[1]1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3149	Footwear, except rubber, n.e.c.	1977	594.8	472.4	87.0	35.4	84	568.0	472.4	95.6	83
		[1]1972	485.8	408.7	53.2	24.0	88	475.7	408.7	67.0	86
		[1]1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

(NA) Not available. n.e.c. Not elsewhere classified.
[1]In 1972, definition of this industry was revised from that used in 1967 SIC manual. Old classification of footwear, except house slippers and rubber footwear, was divided into three separate industries: 3143, Men's Footwear, Except Athletic; 3144, Women's Footwear, Except Athletic; and 3149, Footwear, Except Rubber, N.E.C. In 1967, comparable data were not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Leather tanning and finishing (SIC 3111)	Boot and shoe cut stock and findings (SIC 3131)	House slippers (SIC 3142)	Men's footwear, except athletic (SIC 3143)	Women's footwear, except athletic (SIC 3144)	Footwear, except rubber, n.e.c. (SIC 3149)	Other industries
	Total	(X)	1,456.1	270.6	201.2	1,734.5	1,361.2	594.8	(X)
	Primary products	(X)	1,373.5	235.7	183.4	1,525.1	1,269.2	472.4	(X)
	Secondary products	(X)	18.2	27.3	11.1	134.2	44.4	87.0	(X)
	Miscellaneous receipts	(X)	64.4	7.6	6.7	75.2	47.6	35.4	(X)
3111-	Leather tanning and finishing	1,380.1	1,373.5	(D)	-	-	-	-	(D)
31111	Finished cattle hide and kip side leathers	1,005.4	999.8	(D)	-	-	-	-	(D)
31112	Finished calf and whole kip leathers	25.6	25.6	-	-	-	-	-	-
31113	Finished sheep and lamb leathers	88.1	(D)	-	-	-	-	-	(D)
31114	Other finished leather, n.e.c	35.9	(D)	-	-	-	-	-	(D)
31115	Rough, russet, and crust leather	47.7	47.7	-	-	-	-	-	-
31119	Contract receipts for tanning and finishing leather	109.4	(D)	(D)	-	-	-	-	-
31110	Leather tanning and finishing, n.s.k	68.0	(D)	-	-	-	-	-	(D)
31310	Footwear cut stock and findings	255.1	(D)	235.7	-	(D)	-	-	15.3
31420	House slippers	190.2	-	-	183.4	(D)	(D)	.3	(D)
3143-	Men's footwear, except athletic	1,592.1	-	(D)	(D)	1,525.1	21.1	36.1	(D)
31433	Men's work shoes and boots	421.7	-	(D)	-	409.2	(D)	(D)	-
31434	Men's dress and casual boots, except work	271.0	-	(D)	(D)	264.1	(D)	2.9	-
31435	Men's dress and casual shoes, except athletic	872.5	-	-	(D)	825.5	(D)	(D)	-
31430	Men's footwear, except athletic, n.s.k	26.9	-	-	-	26.4	(D)	-	(D)
3144-	Women's footwear, except athletic	1,386.8	-	(D)	7.0	(D)	1,269.2	41.8	(D)
31445	Women's boots, ankle height and higher	232.2	-	(D)	-	24.5	198.0	(D)	-
31446	Women's sandals	102.8	-	-	(D)	(D)	99.0	(D)	-
31447	Women's shoes, casual, except sandals	524.6	-	-	(D)	(D)	467.3	(D)	-
31448	Women's dress shoes	480.6	-	-	(D)	(D)	458.3	(D)	(D)
31440	Women's footwear, except athletic, n.s.k	46.6	-	-	-	-	46.6	-	-
3149-	Footwear, except rubber, n.e.c	568.0	-	-	-	63.2	(D)	472.4	(D)
31491	Youths' and boys' shoes (except rubber), except athletic	98.3	-	-	-	(D)	(D)	72.4	-
31493	Infants' and babies' shoes, except rubber	80.9	-	-	-	3.1	(D)	76.2	(D)
31495	Misses' and preteens' shoes (except rubber), except athletic	90.9	-	-	-	(D)	3.4	80.2	(D)
31496	Children's shoes (except rubber), except athletic	114.0	-	-	-	7.5	(D)	100.1	(D)
31497	Other footwear (including athletic), except rubber	151.3	-	-	-	25.0	(D)	111.8	(D)
31490	Footwear, except rubber, n.s.k	32.6	-	-	-	-	(D)	31.5	(D)
	Other shipments by 4-digit product group:								
2499-	Wood products, n.e.c	(X)	-	(D)	-	-	-	-	(X)
3041-	Rubber and plastics hose and belting	(X)	(D)	(D)	-	-	-	-	(X)
3069-	Fabricated rubber products, n.e.c	(X)	-	(D)	-	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	-	(D)	-	-	(D)	-	(X)
3949-	Sporting and athletic goods, n.e.c	(X)	(D)	(D)	-	(D)	-	(D)	(X)
3999-	Manufacturing industries, n.e.c	(X)	(D)	-	-	-	-	-	(X)
	Miscellaneous receipts:								
93000 00	Contract work	(X)	33.9	5.3	(D)	(D)	13.0	(D)	(X)
99980 98	Other miscellaneous receipts	(X)	18.4	(D)	(Z)	(D)	.3	(D)	(X)
99989 00	Resales	(X)	12.1	(D)	(D)	69.1	34.4	31.5	(X)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
3131-	3069 Fabricated rubber products, n.e.c	(D)	3149-	3949 Sporting and athletic goods, n.e.c	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	LEATHER TANNING AND FINISHING						
3111- --	Total	.....	(X)	(NA)	1,380.1	(NA)	1,026.4
31111 --	Finished cattle hide and kip side leathers	Mil. sq. ft.	(X)	1,054.8	1,005.4	1,131.5	684.1
	Grains, except offal and welting leather (heads, shoulders, bellies, etc.):						
31111 15	Sole leather		13	110.7	129.9	98.7	64.1
31111 33	Bag, case, and strap leather (sides)		14	(S)	29.0	32.0	25.1
31111 35	Upholstery leather, top grains and machine buffs (hides)		9	69.8	99.9	38.2	38.6
31111 37	Upper leather, excluding patent (sides)		42	471.9	486.7	556.4	352.4
31111 41	Patent leather (sides)		5	11.1	10.7	85.1	51.9
31111 42	Garment leather (sides)		16	35.9	30.6		
31111 47	Other grains, including flat and handbag leather, lining leather (sides), and belting and mechanical leather		28	84.1	73.5	140.1	85.4
31111 55	Offal (heads, shoulders, bellies, etc.), except splits and welting leather, but including sole leather, waist belt leather, and welting leather grains		19	*43.8	25.8	37.3	17.8
31111 67	Finished splits, including shoulder splits, deep buffs, buffing, and fleshers		27	**170.7	85.8	136.1	44.2
31111 00	Finished cattle hide and kip side leathers, n.s.k.		(X)	[3]35.2	33.5	[3]7.6	4.6
31112 --	Finished calf and whole kip leathers:						
31112 11	Finished all calf and whole kip leathers		5	(S)	25.6	34.8	35.1
31113 --	Finished sheep and lamb leathers		(X)	78.8	88.1	111.6	54.7
31113 31	Garment		13	61.6	58.2	72.8	35.6
31113 41	Other, including glove, shoe, fleshers, skivers, and shearlings		10	(S)	26.9	35.9	17.7
31113 00	Finished sheep and lamb leathers, n.s.k.		(X)	[3]2.7	3.0	[3]2.9	1.4
31114 --	Other finished leathers, n.e.c.		(X)	59.4	35.9	107.7	47.9
31114 15	Goat and kid leathers		5	11.5	6.2	25.4	15.0
31114 31	Other animal leathers, including cabretta, horse, colt, mule, ass, and pony leathers		13	**30.9	18.8	74.8	29.9
31114 00	Other finished leathers, n.e.c., n.s.k.	Mil. sq. ft.	(X)	[3]17.0	10.9	7.5	3.0
31115 --	Rough, russet, and crust leather, not finished in same establishment:						
31115 31	Rough, russet, and crust leather, not finished in same establishment	.....	18	(X)	47.7	(X)	51.8
31119 --	Receipts for contract finishing and tanning done for others on their materials:						
31119 11	Receipts for contract finishing and tanning done for others on their materials	.....	(X)	(X)	109.4	(X)	87.0
31110 00	Leather tanning and finishing, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(X)	(X)	45.1	(X)	42.0
31110 02	Leather tanning and finishing, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(X)	(X)	22.9	(X)	23.8
	BOOT AND SHOE CUT STOCK AND FINDINGS						
3131- --	Total	.....	(NA)	(X)	255.1	(X)	196.1
31310 --	Footwear cut stock and findings:						
31310 16	Outer soles and innersoles of leather	Mil. doz. prs.	19	**2.7	44.8	9.3	52.8
31310 31	Other leather cut stock (heels, counters, box toes, taps, etc.)	.....	33	(X)	64.0	(X)	50.9
31310 61	Other (wood heel blocks made for sale as such, finished wood heels, shanks, welting, etc.)	.....	44	(X)	97.8	(X)	67.8
31310 00	Footwear cut stock, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	42.0	(X)	15.2
31310 02	Footwear cut stock, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	6.5	(X)	9.4
	HOUSE SLIPPERS[4] [5]						
3142- --	Total	.....	(NA)	78.4	190.2	99.4	159.4
31420 --	House slippers	Million pairs.	52	77.7	188.5	98.5	158.0
31420 60	House slippers, except slipper socks		52	77.7	188.5	94.7	154.3
31420 71	Slipper socks, made from purchased socks	Million pairs.				3.8	3.7
31420 02	House slippers, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	[3].7	1.7	[3].9	1.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MEN'S FOOTWEAR, EXCEPT ATHLETIC[4 5 6]						
3143- --	Total	Million pairs.	(NA)	108.8	1,592.1	125.6	1,181.3
31435 --	Men's dress and casual shoes:						
31435 15	Men's dress and casual shoes		66	66.3	872.5	80.0	714.0
31433 --	Men's work shoes and boots:						
31433 11	Men's work shoes and boots, including steel toes		39	25.7	421.7	31.8	309.5
31434 --	Men's boots, dress and casual (not work):						
31434 13	Men's boots, dress and casual (not work)		46	15.0	271.0	13.4	154.1
31430 00	Men's footwear, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	[7]1.4	21.6	[7].2	2.3
31430 02	Men's footwear, n.s.k., typically for establishments with less than 5 employees (see note)	Million pairs.	(NA)	[7].4	5.3	[7].2	1.4

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1977		
	WOMEN'S FOOTWEAR, EXCEPT ATHLETIC[4 5 6]				
3144- --	Total (size run 4 and over)	Million pairs.	(NA)	150.3	1,386.8
31446 --	Women's sandals:				
31446 13	Women's sandals		41	15.0	102.8
31447 --	Women's shoes, casual, except sandals:				
31447 15	Women's shoes, casual, except sandals		97	64.1	524.6
31448 --	Women's dress shoes:				
31448 17	Women's dress shoes		69	50.0	480.6
31445 --	Women's boots, ankle height and higher:				
31445 11	Women's boots, ankle height and higher		57	16.3	232.2
31440 00	Women's footwear, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	[7]4.0	37.7
31440 02	Women's footwear, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	[7].9	8.9
			1972		
	WOMEN'S FOOTWEAR, EXCEPT ATHLETIC				
3144- --	Total		(X)	213.4	1,348.3
31441 --	Women's shoes, flats, 7/8 and down		(X)	41.4	195.0
31441 11	Cements		(X)	26.8	123.9
31441 15	Stitchout and stitchdown		(X)	2.2	11.3
31441 23	Slip-lasted		(X)	2.6	9.3
31441 25	Direct molded		(X)	.3	1.9
31441 27	Tru moc, handsewns and littleway		(X)	4.9	22.5
31441 28	Sandals		(X)	2.4	10.6
31441 29	Other		(X)	2.2	15.5
31442 --	Women's shoes, low heels, 8/3 - 14/8		(X)	94.6	563.0
31442 31	Cements		(X)	72.6	453.4
31442 34	Stitchout and stitchdown		(X)	2.0	15.2
31442 37	Slip-lasted		(X)	2.8	13.1
31442 41	Direct molded		(X)	3.4	7.5
31442 43	Tru moc, handsewns and littleway		(X)	4.5	23.4
31442 45	Sandals		(X)	6.2	27.1
31442 49	Other		(X)	3.1	23.3
31443 --	Women's shoes, medium heels, 15/8 - 19/8		(X)	51.3	393.6
31443 51	Cements		(X)	45.4	363.1
31443 59	Other		(X)	5.9	30.5
31444 --	Women's shoes, high heels, 20/8 and up		(X)	6.6	45.7
31444 61	Cements		(X)	6.5	44.6
31444 69	Other		(X)	.1	1.1
31444 00	High heels, n.s.k.	Million pairs.	(X)	-	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of Shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1] Quantity	Product shipments[1] Value (million dollars)
			1972--Con.		
3144- --	WOMEN'S FOOTWEAR, EXCEPT ATHLETIC--Con.				
31445 --	Women's boots	Million pairs.	(X)	11.8	102.6
31445 71	Cements		(X)	10.7	90.3
31445 79	Other		(X)	1.1	12.3
31440 00	Women's footwear, n.s.k., typically for establishments with 5 employees or more (see note)		(X)	[7]6.9	43.4
31440 02	Women's footwear, n.s.k., typically for establishments with less than 5 employees (see note)	Million pairs.	(X)	[7].8	5.0

1977 product code	Product	Unit of measure	1977 Number of companies with shipments of $100,000 or more	1977 Product shipments[1] Quantity[2]	1977 Product shipments[1] Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	FOOTWEAR, EXCEPT RUBBER, N.E.C.[4 5 6]						
3149- --	Total	Million pairs.	(NA)	93.4	568.0	[r]122.3	[r]475.7
31491 --	Youths' and boys' shoes, except athletic (size run 12 1/2-6):						
31491 13	Youths' and boys' shoes except athletic (size run 12 1/2-6)		40	14.9	98.3	22.2	103.8
31495 --	Misses' shoes, except athletic (size run 12 1/2-4):						
31495 19	Misses' shoes, except athletic (size run 12 1/2-4)		48	14.3	90.9	[r]51.2	[r]199.3
31496 --	Children's shoes, except athletic (size run 8 1/2-12):						
31496 21	Children's shoes, except athletic (size run 8 1/2-12)		55	17.9	114.0		
31493 --	Infants and babies' shoes (size run 0-8):						
31493 17	Infants' and babies' shoes (size run 0-8)		45	21.5	80.9	25.9	78.8
31497 --	All other footwear, except rubber and slippers:						
31497 23	Athletic footwear, except with sole vulcanized to fabric upper, whether for organized sports or street wear		36	16.6	137.0	20.3	86.7
31497 25	All other footwear, except rubber footwear, shoes with skates attached, or slippers		21	*3.5	14.3		
31490 00	Footwear n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	[7]3.6	26.1	[7]1.9	3.9
31490 02	Footwear n.s.k., typically for establishments with less than 5 employees (see note)	Million pairs.	(NA)	[7]1.1	6.5	[7].8	3.2

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. [r] Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Quantity was estimated based on quantity-value relationship of all other products in this product class.

[4]For 1977, annual production figures were collected and published in Current Industrial Reports MA-31A, Footwear. Revised 1977 data are published in 1978 MA-31A.

[5]For 1977, monthly production figures were collected and published in Current Industrial Reports M31A, Shoes and Slippers.

[6]For 1977, there were changes to product classes as follows:

1977	1972
31435	31431
	31432
31446	31441 (pt.)
	31441 (pt.)
31447	31442 (pt.)
	31443 (pt.)

1977	1972
	31442 (pt.)
31443	31443 (pt.)
	31444
31495	
31496	31492
31497	31494

[7]Quantity was estimated based on average of quantity and value of shipments reported by other shoe-producing companies.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
31111, FINISHED CATTLE HIDE AND KIP SIDE LEATHERS		
United States	1,005.4	684.1
New England Division:		
Maine	119.9	69.1
New Hampshire	34.1	FF
Massachusetts	99.3	81.0
Middle Atlantic Division:		
New York	35.1	26.7
New Jersey	52.1	46.9
Pennsylvania	98.9	59.1
East North Central Division:		
Ohio	4.5	CC
Illinois	36.6	47.4
Wisconsin	175.3	120.1
East South Central Division:		
Tennessee	56.9	48.4
Pacific Division:		
California	83.1	32.5
31113, FINISHED SHEEP AND LAMB LEATHERS		
United States	88.1	54.7
New England Division:		
Massachusetts	17.5	FF
Middle Atlantic Division:		
New York	30.5	FF
31114, OTHER FINISHED LEATHER		
United States	35.9	47.9
New England Division:		
Massachusetts	6.0	EE
Middle Atlantic Division:		
New York	4.8	CC
31115, ROUGH, RUSSET, AND CRUST LEATHER		
United States	47.7	51.8
East North Central Division:		
Wisconsin	10.2	13.4
31119, CONTRACT RECEIPTS FOR TANNING AND FINISHING LEATHER		
United States	109.4	87.0
New England Division:		
New Hampshire	6.8	CC
Massachusetts	35.9	24.8
Middle Atlantic Division:		
New York	26.4	17.3
31433, MEN'S WORK SHOES AND BOOTS		
United States	421.7	309.5
New Engalnd Division:		
Maine	41.3	25.0
New Hampshire	16.8	EE
Massachusetts	33.0	24.7
Middle Atlantic Division:		
Pennsylvania	5.5	10.3
East North Central Division:		
Wisconsin	52.0	32.0
South Atlantic Division:		
North Carolina	30.2	EE
East South Central Division:		
Tennessee	13.5	EE
31434, MEN'S DRESS AND CASUAL BOOTS, EXCEPT WORK		
United States	271.0	154.1
New England Division:		
Maine	12.0	EE
Massachusetts	28.9	12.6
Middle Atlantic Division:		
Pennsylvania	15.7	CC
East North Central Division:		
Wisconsin	9.9	EE
East South Central Division:		
Tennessee	90.1	GG
West South Central Division:		
Texas	56.1	EE
31435, MEN'S DRESS AND CASUAL SHOES, EXCEPT ATHLETIC		
United States	872.5	714.0
New England Division:		
Maine	100.5	(NA)
New Hampshire	42.5	(NA)
Massachusetts	62.6	(NA)
Middle Atlantic Division:		
Pennsylvania	104.6	(NA)
East North Central Division:		
Wisconsin	100.0	(NA)
West South Central Division:		
Arkansas	36.6	(NA)
31445, WOMEN'S BOOTS, ANKLE HEIGHT AND HIGHER		
United States	232.2	102.6
New England Division:		
Maine	26.4	EE
New Hampshire	44.1	19.3
Massachusetts	23.7	5.6
Middle Atlantic Division:		
New York	3.8	4.7
Pennsylvania	18.7	10.6
East South Central Division:		
Tennessee	38.2	(NA)
Pacific Division:		
California	16.7	2.9
31446, WOMEN'S SANDALS		
United States	102.8	(NA)
New England Division:		
New Hampshire	6.8	(NA)
Middle Atlantic Division:		
New York	9.6	(NA)
Pennsylvania	15.3	(NA)
West North Central Division:		
Missouri	8.5	(NA)
Pacific Division:		
California	31.1	(NA)
31447, WOMEN'S CASUAL SHOES, EXCEPT SANDALS		
United States	524.6	(NA)
New England Division:		
Maine	105.2	(NA)
New Hampshire	28.8	(NA)
Massachusetts	44.0	(NA)

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
31447, WOMEN'S CASUAL SHOES, EXCEPT SANDALS--Con.		
Middle Atlantic Division:		
New York	12.3	(NA)
Pennsylvania	48.6	(NA)
East North Central Division:		
Wisconsin	3.8	(NA)
West North Central Division:		
Missouri	98.8	(NA)
West South Central Division:		
Arkansas	43.7	(NA)
Texas	11.2	(NA)
Pacific Division:		
California	12.2	(NA)
31448, WOMEN'S DRESS SHOES		
United States	480.6	(NA)
New England Division:		
Maine	41.7	(NA)
New Hampshire	52.9	(NA)
Massachusetts	44.7	(NA)
Middle Atlantic Division:		
New York	25.1	(NA)
Pennsylvania	17.9	(NA)
East North Central Division:		
Wisconsin	4.5	(NA)
West North Central Division:		
Missouri	63.5	(NA)
West South Central Division:		
Arkansas	14.3	(NA)
Pacific Division:		
California	28.9	(NA)
31491, YOUTHS' AND BOYS' SHOES (EXCEPT RUBBER), EXCEPT ATHLETIC		
United States	98.3	103.8
New England Division:		
Maine	9.2	EE
Middle Atlantic Division:		
Pennsylvania	19.5	EE
West North Central Division:		
Missouri	7.0	EE
East South Central Division:		
Tennessee	18.3	14.1
West South Central Division:		
Arkansas	7.5	5.6
31493, INFANTS' AND BABIES' SHOES, EXCEPT RUBBER		
United States	80.9	78.8
Middle Atlantic Division:		
Pennsylvania	16.0	EE
West North Central Division:		
Missouri	24.3	EE
East South Central Division:		
Tennessee	10.0	CC
31495, MISSES' AND PRETEENS' SHOES (EXCEPT RUBBER), EXCEPT ATHLETIC		
United States	90.9	95.7
New England Division:		
Maine	3.0	(NA)
New Hampshire	7.9	(NA)
Middle Atlantic Division:		
Pennsylvania	15.3	(NA)
West North Central Division:		
Missouri	20.7	(NA)
East South Central Division:		
Tennessee	15.7	(NA)
West South Central Division:		
Arkansas	5.0	(NA)
31496, CHILDREN'S SHOES (EXCEPT RUBBER), EXCEPT ATHLETIC		
United States	114.0	107.3
New England Division:		
Maine	8.1	(NA)
New Hampshire	4.3	(NA)
Middle Atlantic Division:		
Pennsylvania	21.8	(NA)
West North Central Division:		
Missouri	24.1	(NA)
East South Central Division:		
Tennessee	17.7	(NA)
West South Central Division:		
Arkansas	8.6	(NA)
31497, OTHER FOOTWEAR (INCLUDING ATHLETIC), EXCEPT RUBBER		
United States	151.3	86.7
New England Division:		
Maine	31.8	(NA)
New Hampshire	8.4	(NA)
Massachusetts	43.2	(NA)
Middle Atlantic Division:		
New York	7.3	(NA)
Pennsylvania	9.1	(NA)
West North Central Division:		
Missouri	5.0	(NA)
South Atlantic Division:		
Florida	5.7	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3111-	Leather tanning and finishing	1,380.1	1,237.3	1,028.6	1,013.3	1,041.9	1,026.4	846.2	734.9
31111	Finished cattle hide and kip side leathers	1,005.4	876.8	655.8	646.7	691.0	684.1	495.7	397.4
31112	Finished calf and whole kip leathers	25.6	(14.1)	33.4	35.0	34.0	35.1	35.6	51.9
31113	Finished sheep and lamb leathers	88.1	(73.2)	(74.5)	(88.0)	56.7	54.7	60.9	69.7
31114	Other finished leather	35.9	(57.7)	(48.7)	(37.2)	47.7	47.9	75.3	69.4
31115	Rough, russet, and crust leather	47.7	(97.6)	(88.6)	(103.7)	53.4	51.8	30.5	23.4
31119	Contract receipts for tanning and finishing leather	109.4	(94.5)	(83.4)	(58.9)	5.5	87.0	113.1	99.1
31110	Leather, tanning and finishing, n.s.k	68.0	(23.5)	(44.2)	(43.8)	73.6	65.8	35.1	23.9
31310	Footwear cut stock and findings	255.1	255.5	219.1	217.8	216.6	196.1	254.3	216.0
31420	House slippers	190.2	163.0	166.9	187.7	166.8	159.4	162.3	127.6
3143-	Men's footwear, except athletic	1,592.1	1,483.3	1,332.7	1,327.7	1,288.8	1,181.3	984.4	705.9
31433	Men's work shoes and boots	421.7	366.9	336.3	369.0	331.5	309.5	315.0	174.9
31434	Men's dress and casual boots, except work	271.0	283.0	260.3	220.4	182.7	154.1		
31435	Men's dress and casual shoes, except athletic	872.5	823.2	725.0	716.4	767.3	714.0	669.4	531.0
31430	Men's footwear, except athletic, n.s.k	26.9	(10.1)	(11.2)	(21.9)	7.3	3.7		
3144-	Women's footwear, except athletic	1,386.8	1,306.5	1,211.3	1,233.1	1,274.4	1,348.3	1,249.0	1,065.5
31445	Women's boots, ankle height and higher	232.2	91.5	(74.5)	(52.8)	78.9	102.6		
31446	Women's sandals	102.8							
31447	Women's casual shoes, except sandals	524.6	(1,189.4)	(1,072.1)	(1,072.4)	1,111.3	1,197.3	1,249.0	1,065.5
31448	Women's dress shoes	480.6							
31440	Women's footwear, except athletic, n.s.k	46.6	(25.6)	(64.7)	(107.9)	84.2	48.4		
3149-	Footwear, except rubber, n.e.c	568.0	580.4	522.9	544.2	(X)	475.7	(NA)	(NA)
31491	Youths' and boys' shoes (except rubber), except athletic	98.3	132.2	119.6	121.3	101.8	103.8	100.1	82.2
31493	Infants' and babies' shoes, except rubber	80.9	87.6	91.1	71.2	71.6	78.8	69.6	73.1
31495	Misses' and preteens' shoes (except rubber), except athletic	90.9							
31496	Children's shoes (except rubber), except athletic	114.0	198.2	205.8	208.9	206.9	199.3	186.7	189.9
31497	Other footwear (including athletic), except rubber	151.3	144.2	115.4	119.3	(S)	86.7	40.4	54.4
31490	Footwear, except rubber, n.s.k	32.6	(18.1)	(1.0)	(23.5)	(X)	7.1	(NA)	(NA)

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	1977, delivered cost (million dollars)	1972, delivered cost (million dollars)
	INDUSTRY 3111, LEATHER TANNING AND FINISHING		
3111--	Materials, parts, and supplies	830.2	624.6
201191	Hides, skins, and pelts	526.6	439.9
280021	Tanning materials, dressings, dyes, and finishing agents	157.4	104.8
	Finished leather:		
311102	Upper leather	10.1	8.9
311105	Innersole leather	4.5	16.4
311106	All other soling leather		
311108	All other finished leather	17.6	10.1
970099	All other materials and components, parts, containers, and supplies	39.1	15.7
971000	Materials, parts, and supplies, n.s.k.[1]	74.9	28.8
	INDUSTRY 3131, BOOT AND SHOE CUT STOCK AND FINDINGS		
	Materials, parts, and supplies	152.5	113.3
201191	Hides, skins, and pelts	16.4	4.0
	Finished leather:		
311102	Upper leather	1.7	2.9
311105	Innersole leather	5.1	1.3
311106	All other soling leather	19.4	27.3
311108	All other finished leather	4.6	2.3
280021	Tanning materials, dressings, dyes, and other finishing agents	1.9	2.0
970099	All other materials and components, parts, containers, and supplies	74.7	55.1
971000	Materials, parts, and supplies, n.s.k.[1]	28.7	18.4

1977 material code	Material	Unit of measure	1977 Quantity[2]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3142, HOUSE SLIPPERS					
	Materials, parts, and supplies	.....	(NA)	83.3	(NA)	58.6
	Finished leather	.....	(X)	4.8	(X)	7.2
311111	Upper leather, including lining	Million sq. ft.	*6.2	4.8	8.9	6.4
311112	Soling leather, including innersole	Million lb.	(S)	(3)	(NA)	.7
311107	All other finished leather	.....	(X)	-	(X)	.1
	Cut stock and findings	.....	(X)	2.1	(X)	5.9
300115	Plastic, natural, and synthetic rubber	.....	(X)	.4	(X)	1.1
306965	Rubber and elastomer resin soling slabs and top lift sheets	Million sq. ft.	(S)	1.1	10.0	3.8
307907	Composition and nuclear	Million lb.	(NA)	.6	(NA)	.4
313108	Leather and other	.....			(X)	.6
229503	Coated, impregnated, or laminated plastics on cloth backing, including artificial leather	Mil. lin. yd.	(S)	8.9	4.1	8.3
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....				
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	Million lb.	(NA)	1.4		
260091	Paper and paperboard containers and other paper packaging supplies	.....	(X)	1.4	(NA)	[4]19.1
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[3]36.0		
971000	Materials, parts, and supplies, n.s.k.[1]	.....	(X)	28.7	(X)	18.1
	INDUSTRY 3143, MEN'S FOOTWEAR, EXCEPT ATHLETIC					
	Materials, parts, and supplies	.....	(NA)	795.7	(NA)	573.2
	Finished leather	.....	(NA)	431.5	(NA)	314.9
311111	Upper leather, including lining	Million sq. ft.	*360.8	359.4	438.6	275.3
311112	Soling leather, including innersole	Million lb.	**42.7	57.1	49.8	38.1
311107	All other finished leather	.....	(X)	15.0	(X)	1.5
	Cut stock and findings	.....	(NA)	137.2	(NA)	90.1
300115	Plastic, natural, and synthetic rubber	.....	(X)	46.2	(X)	38.8
306965	Rubber and elastomer resin soling slabs and top lift sheets	Million sq. ft.	**41.3	30.7	(NA)	10.0
307907	Composition and nuclear	Million lb.	30.2	26.6	(NA)	9.5
313108	Leather and other	.....	(X)	33.7	(X)	31.7
229503	Coated, impregnated, or laminated plastics on cloth backing, including artificial leather	Mil. lin. yd.	14.4	18.4	6.8	11.4
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	3.0		
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	Million lb.	39.5	16.2		
260091	Paper and paperboard containers and other paper packaging supplies	.....	(X)	22.0	(NA)	[5]121.3
970099	All other materials, containers, and supplies	.....	(X)	105.9		
971000	Materials, parts, and supplies, n.s.k.[1]	.....	(X)	61.5	(X)	35.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of Materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[2]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3144, WOMEN'S FOOTWEAR, EXCEPT ATHLETIC					
	Materials, parts, and supplies	.....	(X)	553.5	(NA)	537.6
	Finished leather	.....	(X)	183.2	(X)	176.1
311111	Upper leather, including lining	Million sq. ft.	**164.2	158.2	240.0	156.2
311112	Soling leather, including innersole	Million lb.	(S)	21.6	22.3	[3]7.0
311107	All other finished leather	.....	(X)	3.4	(X)	2.9
	Cut stock and findings	.....	(X)	108.5	(X)	73.1
300115	Plastic, natural, and synthetic rubber	.....	(X)	35.6	(X)	24.2
306965	Rubber and elastomer resin soling slabs and top lift sheets	Million sq. ft.	**40.8	29.8	64.1	22.9
307907	Composition and nuclear	Million lb.	(S)	14.4	9.6	5.3
313108	Leather and other	.....	(X)	28.7	(X)	20.7
229503	Coated, impregnated, or laminated plastics on cloth backing, including artificial leather	Mil. lin. yd.	**11.3	45.0	14.5	36.5
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	15.5		
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	Million lb.	(S)	8.2		
260091	Paper and paperboard containers and other paper packaging supplies	.....	(X)	21.5	(X)	[4]178.9
970099	All other materials and components, parts, containers, and supplies	.....	(X)	111.6		
971000	Materials, parts, and supplies, n.s.k.[1]	.....	(X)	60.0	(X)	73.0
	INDUSTRY 3149, FOOTWEAR, EXCEPT RUBBER, N.E.C.					
	Materials, parts, and supplies	.....	(X)	240.9	(X)	185.4
	Finished leather	.....	(X)	84.6	(X)	65.8
311111	Upper leather, including lining	Million sq. ft.	**81.1	73.6	87.8	57.0
311112	Soling leather, including innersole	Million lb.	5.9	9.3	7.3	6.0
311107	All other finished leather	.....	(X)	1.7	(NA)	2.8
	Cut stock and findings	.....	(X)	42.4	(X)	23.1
300115	Plastics, natural, and synthetic rubber	.....	(X)	16.5	(X)	8.1
306965	Rubber and elastomer resin soling slabs and top lift sheets	Million sq. ft.	(S)	7.7	(NA)	6.2
307907	Composition and nuclear	Million lb.	(S)	7.0	(NA)	3.4
313108	Leather and other	.....	(X)	11.2	(X)	5.4
229503	Coated, impregnated, or laminated plastics on cloth backing, including artificial leather	Mil. lin. yd.	6.4	19.1	7.1	14.4
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	1.5		
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	Million lb.	23.6	10.4		
260091	Paper and paperboard containers and other paper packaging supplies	.....	(X)	10.7	(X)	[5]55.5
970099	All other materials and components, parts, containers, and supplies	.....	(X)	42.6		
971000	Materials, parts, and supplies, n.s.k.[1]	.....	(X)	29.6	(X)	26.7

- Represents zero. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1977, material code 311112 was included with material code 970099.

[4]For 1972, combined data are shown. However, separate data were published in 1972 for "Unsupported plastics film and sheeting," "Containers and other packaging supplies," and "All other materials, parts, and supplies," which are not directly comparable to 1977 detail.

[5]For 1972, combined data are shown. However, separate data were published in 1972 for "Containers and other packaging supplies" and "All other materials, parts, and supplies," which are not directly comparable to 1977 detail.

Leather Gloves; Luggage; and Miscellaneous Leather Goods

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DESCRIPTION OF INDUSTRIES

LEATHER GLOVES; LUGGAGE; AND MISCELLANEOUS LEATHER GOODS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3151	Leather Gloves and Mittens
3161	Luggage
3171	Women's Handbags and Purses
3172	Personal Leather Goods
3199	Leather Goods, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3151, LEATHER GLOVES AND MITTENS

This industry comprises establishments primarily engaged in the manufacture of dress, semidress, and work gloves exclusively of leather or leather with lining of other material. Establishments primarily engaged in the manufacture of sporting and athletic gloves are classified in industry 3944; and dress, semidress, and work gloves and mittens of cloth or cloth and leather combined in industry 2381.

The total value of shipments for establishments classified in the Leather Gloves and Mittens industry amounted to $178 million in 1977, an increase of 81 percent from 1972. The value of shipments of products classified as primary to the industry was $122 million, an increase of 53 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were work gloves and mittens for which shipments increased 59 percent, and dress and semidress gloves and mittens, for which shipments increased 45 percent. Value added by manufacture, at $68 million in 1977, was 58 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 5.5 thousand employees, an increase of 12 percent from 1972. The leading States in employment were New York, Wisconsin, and Illinois, accounting for approximately 55 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of leather gloves and mittens. This is the source of the data in table 6a described "As reported in census of manufactures." Additional detailed figures on the shipments of leather gloves and mittens are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-23D, Gloves and Mittens. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3161, LUGGAGE

This industry comprises establishments primarily engaged in the manufacture of luggage of leather and other material.

The total value of shipments for establishments classified in the Luggage industry amounted to $655 million in 1977, an increase of 80 percent from 1972. The value of shipments of products classified as primary to the industry was $585 million, an increase of 82 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were attache cases, for which shipments increased 163 percent, and zippered hand luggage, men's and women's, for which shipments increased 163 percent. Value added by manufacture, at $328 million in 1977, was 69 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 19.2 thousand employees, an increase of 12 percent from 1972. The leading States in employment were New York and New Jersey, accounting for approximately 30 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 30 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 9 percent of total value of shipments.

INDUSTRY 3171, WOMEN'S HANDBAGS AND PURSES

This industry comprises establishments primarily engaged in the manufacture of women's handbags and purses of leather or other materials, except precious metals (industry 3911).

The total value of shipments for establishments classified in the Women's Handbags and Purses industry amounted to $505 million in 1977, an increase of 38 percent from 1972. The value of shipments of products classified as primary to the industry was $436 million, an increase of 26 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were handbags and purses made of all leather and chiefly leather for which shipments increased 63 percent. Value added by manufacture, at $267 million in 1977, was 32 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 20.3 thousand employees, a decrease of 9 percent from 1972. The leading States in employment were New York and New Jersey, accounting for approximately 55 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 19 percent of total value of shipments.

INDUSTRY 3172, PERSONAL LEATHER GOODS

This industry comprises establishments primarily engaged in the manufacture of small articles, such as billfolds, key cases, and coin purses of leather or other materials, except precious metal (industry 3911).

The total value of shipments for establishments classified in the Personal Leather Goods industry amounted to $367 million in 1977, an increase of 51 percent from 1972. The value of shipments of products classified as primary to the industry was $369 million, an increase of 59 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were jewelry boxes and cases, for which shipments increased 102 percent, and billfolds and wallets made of leather, for which shipments increased 59 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $206 million in 1977, was 43 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 11.9 thousand employees, an increase of 3 percent from 1972. The leading State in employment was New York, accounting for approximately 25 percent of the industry's 1977 employment. This same State was in the forefront for 1972 when it accounted for approximately 35 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 12 percent of total value of shipments.

INDUSTRY 3199, LEATHER GOODS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of leather goods, not elsewhere classified, such as saddlery, harness, and whips, embossed leather goods, leather desk sets, and industrial leather belting.

The total value of shipments for establishments classified in the Leather Goods, N.E.C. industry amounted to $284 million in 1977, an increase of 76 percent from 1972. The value of shipments of products classified as primary to the industry was $237 million, an increase of 62 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were industrial leather belting (SIC code 31990 91), for which shipments increased 208 percent. Value added by manufacture, at $137 million in 1977, was 62 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.6 thousand employees, an increase of 19 percent from 1972. The leading States in employment were Texas, California, and New York, accounting for approximately 45 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 20 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3151, LEATHER GLOVES AND MITTENS																
1977 Census--	84	101	66	5.5	33.9	4.7	8.2	25.5	67.6	111.8	178.0	1.9	(NA)	33.7	83	85
1976 ASM[5] ---	(NA)	(NA)	(NA)	6.2	34.4	5.3	8.6	25.8	62.1	86.8	147.6	0.8	13.8	30.4	(NA)	(NA)
1975 ASM[5] ---	(NA)	(NA)	(NA)	6.0	32.3	5.5	8.2	24.4	54.5	81.4	132.5	1.4	13.8	28.8	(NA)	(NA)
1974 ASM[5] ---	(NA)	(NA)	(NA)	7.1	37.2	6.4	11.0	29.1	65.7	101.9	165.7	1.9	12.5	28.3	(NA)	(NA)
1973 ASM[6] ---	(NA)	(NA)	(NA)	5.2	24.5	4.5	8.1	19.1	52.2	69.6	120.1	0.6	9.1	22.9	(NA)	(NA)
1972 Census--	95	106	60	4.9	22.1	4.3	7.6	17.1	43.0	55.0	98.2	0.5	8.5	20.3	92	85
1971 ASM----	(NA)	(NA)	(NA)	4.9	21.4	4.2	7.3	16.6	41.8	48.7	92.1	0.5	(NA)	17.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	5.5	22.2	4.8	8.2	17.3	48.3	54.1	100.5	[6]0.6	(NA)	19.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	6.0	23.3	5.3	9.4	18.3	36.7	55.8	91.8	[6]0.9	7.4	15.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	6.0	22.5	5.3	9.5	17.8	34.7	47.6	83.5	0.6	6.9	13.3	(NA)	(NA)
1967 Census--	136	147	71	6.3	22.4	5.6	9.9	17.9	36.3	49.3	86.7	0.8	6.8	14.2	90	84
1966 ASM----	(NA)	(NA)	(NA)	7.4	25.1	6.5	11.5	20.4	37.0	54.1	89.6	[6]0.6	(NA)	15.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	7.3	24.2	6.5	11.3	19.1	35.4	48.0	81.9	0.3	(NA)	15.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	6.9	23.4	6.2	11.2	18.7	38.0	46.0	83.8	0.2	6.1	13.7	(NA)	(NA)
1963 Census--	160	166	87	7.7	24.4	6.9	12.2	19.5	32.2	46.7	80.6	0.3	5.9	14.9	81	89
INDUSTRY 3161, LUGGAGE																
1977 Census--	286	298	130	19.2	164.1	15.8	29.0	105.5	328.3	328.0	654.9	8.1	(NA)	113.5	94	98
1976 ASM----	(NA)	(NA)	(NA)	17.6	143.6	14.4	26.1	94.6	288.6	281.8	565.3	[6]4.9	81.8	89.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	16.6	124.9	13.4	23.8	80.2	244.8	220.4	469.1	4.2	80.8	79.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	17.7	118.7	14.3	25.5	78.6	247.2	211.1	446.6	6.4	79.1	84.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	19.0	117.7	15.9	29.9	83.3	210.0	204.1	410.5	5.2	79.7	74.4	(NA)	(NA)
1972 Census--	266	277	130	17.1	106.8	14.3	26.4	75.6	194.1	171.9	364.5	8.9	(S)	66.0	92	97
1971 ASM----	(NA)	(NA)	(NA)	14.8	87.6	12.2	22.3	59.2	156.0	125.0	283.3	5.5	(S)	46.3	(NA)	(NA)
1970 ASM[6] ---	(NA)	(NA)	(NA)	16.6	89.7	13.9	24.8	60.7	165.9	130.2	301.5	3.7	(S)	48.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	21.9	108.2	19.1	34.7	78.4	221.9	166.8	379.0	5.6	68.2	55.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	21.3	99.9	18.4	33.7	71.7	199.2	158.4	357.6	8.5	60.6	45.6	(NA)	(NA)
1967 Census--	328	333	156	21.4	96.6	18.4	34.2	69.4	186.0	155.2	334.2	8.8	62.9	45.3	96	94
1966 ASM----	(NA)	(NA)	(NA)	19.6	82.9	17.0	31.9	60.1	143.7	138.7	275.8	4.9	(NA)	46.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	18.4	74.1	15.8	29.1	53.8	132.1	129.1	261.6	3.6	(NA)	42.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	16.4	66.3	14.1	27.9	48.6	121.5	110.8	232.9	2.1	36.4	32.2	(NA)	(NA)
1963 Census--	377	379	145	16.4	62.9	14.1	26.3	46.7	112.8	100.4	210.3	1.9	34.8	36.3	95	94
INDUSTRY 3171, WOMEN'S HANDBAGS AND PURSES																
1977 Census--	404	418	186	20.3	144.0	18.2	32.8	109.1	266.5	241.9	505.2	6.6	(NA)	61.9	97	97
1976 ASM----	(NA)	(NA)	(NA)	23.3	155.5	20.7	37.9	117.5	283.1	237.5	514.3	[6]7.1	43.3	58.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	22.3	143.6	19.8	37.4	107.7	248.1	210.1	452.0	[6]3.8	37.4	48.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	20.8	117.6	18.5	32.9	89.7	202.2	167.0	366.8	[6]2.7	34.7	39.3	(NA)	(NA)
1973 ASM[6] ---	(NA)	(NA)	(NA)	21.8	120.5	19.5	36.2	93.8	192.5	157.4	348.6	4.5	37.6	39.2	(NA)	(NA)
1972 Census--	431	444	214	22.2	121.7	19.8	36.6	93.2	201.5	166.5	365.0	3.7	38.3	37.1	95	97
1971 ASM----	(NA)	(NA)	(NA)	19.6	93.8	17.8	32.0	74.5	159.3	113.4	272.6	3.1	31.6	28.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	21.4	96.0	19.3	35.1	76.9	164.5	117.0	280.8	2.8	37.5	27.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	25.9	118.8	23.6	45.7	96.0	200.8	156.5	358.2	3.0	35.0	31.0	(NA)	(NA)
1968 ASM[5] ---	(NA)	(NA)	(NA)	25.9	119.0	23.7	45.8	96.2	201.8	156.2	358.6	3.5	[5]33.9	30.5	(NA)	(NA)
1967 Census--	488	496	247	24.1	104.5	21.7	41.7	82.8	173.6	154.2	327.2	2.2	[5]33.2	26.1	98	98
1966 ASM----	(NA)	(NA)	(NA)	22.7	90.5	20.1	40.1	70.6	149.5	142.9	291.9	[6]2.9	(NA)	21.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	22.9	86.1	20.1	38.7	68.7	137.3	134.4	271.0	[6]2.0	(NA)	21.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	24.8	92.2	22.2	42.2	72.9	159.6	137.0	295.3	[6]1.6	20.6	21.3	(NA)	(NA)
1963 Census--	539	545	262	24.5	88.5	22.0	41.8	70.1	142.6	137.1	280.3	1.9	19.1	18.8	98	98
INDUSTRY 3172, PERSONAL LEATHER GOODS																
1977 Census--	253	260	97	11.9	98.2	9.6	17.2	60.9	205.8	161.2	366.8	4.8	(NA)	62.5	96	91
1976 ASM----	(NA)	(NA)	(NA)	12.0	94.4	9.8	17.3	59.2	198.4	148.0	342.3	3.2	34.6	51.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	11.4	87.3	9.2	16.7	54.8	179.3	124.9	308.4	2.4	32.3	47.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	12.2	84.4	9.9	17.8	54.1	175.5	116.5	286.6	2.1	31.1	54.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	12.4	83.7	10.1	19.0	50.8	158.8	118.6	272.5	[6]4.8	35.7	52.6	(NA)	(NA)
1972 Census--	238	244	98	11.5	73.4	9.3	16.9	45.6	143.7	103.4	242.2	2.8	33.3	38.3	94	91
1971 ASM----	(NA)	(NA)	(NA)	12.8	76.5	10.3	18.7	46.5	137.3	96.1	236.5	1.3	35.2	35.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	15.0	81.7	12.3	22.3	50.3	143.0	105.7	247.1	2.1	34.2	40.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	12.3	61.6	10.2	18.5	38.9	112.1	86.0	198.7	1.3	30.8	30.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	12.1	60.0	9.9	18.3	38.8	112.5	81.9	191.6	1.3	29.6	29.3	(NA)	(NA)
1967 Census--	293	296	105	12.7	58.2	10.7	19.7	38.4	105.1	80.9	186.2	2.0	29.5	26.0	94	92
1966 ASM----	(NA)	(NA)	(NA)	15.6	62.6	13.1	24.4	42.7	105.0	90.2	195.8	[6]2.2	(NA)	28.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	14.0	54.8	11.7	22.0	36.9	98.6	80.2	175.5	1.6	(NA)	27.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	11.9	49.1	10.0	19.3	33.1	88.3	79.7	166.0	[6]1.5	18.0	26.1	(NA)	(NA)
1963 Census--	325	340	117	12.4	47.4	10.3	19.6	32.1	82.4	76.6	159.0	1.3	16.8	20.9	96	92

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3199, LEATHER GOODS, N.E.C.[3]															
1977 Census--	512	532	117	8.6	67.9	7.0	12.4	43.7	136.7	154.0	284.2	4.1	(NA)	50.6	94	95
1976 ASM[5] ---	(NA)	(NA)	(NA)	7.1	60.4	5.8	10.6	41.9	128.8	157.4	282.1	1.9	39.4	45.7	(NA)	(NA)
1975 ASM[5] ---	(NA)	(NA)	(NA)	7.4	57.0	6.1	10.2	39.1	116.5	130.8	247.2	4.8	36.2	43.0	(NA)	(NA)
1974 ASM[5] ---	(NA)	(NA)	(NA)	7.4	47.7	6.5	10.6	34.0	100.4	99.6	194.6	1.6	32.1	36.9	(NA)	(NA)
1973 ASM[6] ---	(NA)	(NA)	(NA)	7.5	46.3	6.2	11.6	32.3	61.8	97.8	183.8	6.3	27.7	33.1	(NA)	(NA)
1972 Census--	433	448	99	7.2	42.5	6.1	11.2	29.4	84.3	81.0	161.3	2.2	22.1	30.2	92	90

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3151, LEATHER GLOVES AND MITTENS											
1977 Census--	6 191	(NA)	85	1 734	3.12	62	81	(NA)	12 345	50	8.27
1976 ASM----	5 548	2 225	85	1 622	3.00	58	82	9	10 016	55	7.22
1975 ASM----	5 383	2 300	91	1 490	2.97	61	85	10	9 083	59	6.64
1974 ASM----	5 239	1 760	90	1 718	2.64	61	83	7	9 253	56	5.97
1973 ASM----	4 711	1 750	86	1 800	2.35	57	78	7	10 038	46	6.44
1972 Census--	4 510	1 734	87	1 767	2.25	56	78	8	8 775	51	5.65
1971 ASM----	4 367	(NA)	85	1 738	2.27	52	76	(NA)	8 530	51	5.72
1970 ASM----	4 036	(NA)	87	1 708	2.10	53	75	(NA)	8 781	45	5.89
1969 ASM----	3 883	1 233	88	1 773	1.94	60	86	8	6 116	63	3.90
1968 ASM----	3 750	1 150	88	1 792	1.87	57	83	8	5 783	64	3.65
1967 Census--	3 555	1 079	88	1 767	1.80	56	82	7	5 761	61	3.66
1966 ASM----	3 391	(NA)	87	1 769	1.77	60	88	(NA)	5 000	67	3.21
1965 ASM----	3 315	(NA)	89	1 738	1.69	58	88	(NA)	4 849	68	3.13
1964 ASM----	3 391	884	89	1 806	1.66	54	82	7	5 507	61	3.39
1963 Census--	3 168	766	89	1 768	1.59	57	88	7	4 181	75	2.63
INDUSTRY 3161, LUGGAGE											
1977 Census--	8 526	(NA)	82	1 828	3.64	50	75	(NA)	17 062	49	11.33
1976 ASM----	8 159	4 647	81	1 812	3.62	49	75	14	16 397	49	11.05
1975 ASM----	7 524	4 867	80	1 776	3.36	46	73	17	14 746	51	10.28
1974 ASM----	6 706	4 468	80	1 783	3.08	47	73	17	13 966	48	9.69
1973 ASM----	6 194	4 194	83	1 880	2.78	49	78	19	11 052	56	7.02
1972 Census--	6 245	(S)	83	1 846	2.86	47	76	(S)	11 350	55	7.35
1971 ASM----	5 918	(S)	82	1 827	2.65	44	75	(S)	10 540	56	6.99
1970 ASM----	5 403	(S)	83	1 784	2.44	43	72	(S)	9 993	54	6.68
1969 ASM----	4 940	3 114	87	1 816	2.25	44	72	17	10 132	48	6.39
1968 ASM----	4 690	2 845	86	1 831	2.12	44	72	16	9 352	50	5.91
1967 Census--	4 514	2 939	85	1 858	2.02	46	75	18	8 691	51	5.43
1966 ASM----	4 229	(NA)	86	1 876	1.88	50	80	(NA)	7 331	57	4.50
1965 ASM----	4 027	(NA)	85	1 841	1.84	49	77	(NA)	7 179	56	4.53
1964 ASM----	4 042	2 219	85	1 978	1.74	47	76	15	7 408	54	4.35
1963 Census--	3 835	2 121	85	1 865	1.77	47	77	16	6 878	55	4.28
INDUSTRY 3171, WOMEN'S HANDBAGS AND PURSES											
1977 Census--	7 097	(NA)	89	1 801	3.33	47	76	(NA)	13 134	54	8.13
1976 ASM----	6 673	1 858	88	1 830	3.10	46	76	8	12 150	54	7.46
1975 ASM----	6 439	1 677	88	1 888	2.87	46	78	8	11 125	57	6.63
1974 ASM----	5 653	1 668	88	1 778	2.72	45	77	9	9 721	58	6.14
1973 ASM----	5 527	1 724	89	1 856	2.59	45	79	10	8 830	62	5.31
1972 Census--	5 481	1 725	89	1 848	2.54	45	78	10	9 076	60	5.50
1971 ASM----	4 785	1 612	90	1 797	2.32	41	76	11	8 127	58	4.97
1970 ASM----	4 485	1 752	90	1 818	2.19	41	75	13	7 686	58	4.68
1969 ASM----	4 586	1 351	91	1 936	2.10	43	76	9	7 752	59	4.39
1968 ASM----	4 594	1 308	91	1 932	2.10	43	76	9	7 791	58	4.40
1967 Census--	4 336	1 377	90	1 921	1.98	47	79	10	7 203	60	4.16
1966 ASM----	3 986	(NA)	88	1 995	1.76	48	79	(NA)	6 585	60	3.72
1965 ASM----	3 759	(NA)	87	1 925	1.77	49	81	(NA)	5 995	62	3.54
1964 ASM----	3 717	830	89	1 900	1.72	46	77	6	6 435	57	3.78
1963 Census--	3 612	779	89	1 900	1.67	48	80	6	5 820	62	3.41
INDUSTRY 3172, PERSONAL LEATHER GOODS											
1977 Census--	8 281	(NA)	81	1 780	3.54	43	70	(NA)	17 359	47	11.98
1976 ASM----	7 866	2 883	81	1 765	3.42	43	70	10	16 533	47	11.46
1975 ASM----	7 657	2 833	80	1 815	3.28	40	68	10	15 728	48	10.73
1974 ASM----	6 918	2 549	81	1 797	3.03	40	70	10	14 385	48	9.85
1973 ASM----	6 750	2 879	81	1 881	2.67	43	74	13	12 806	52	8.35
1972 Census--	6 382	2 895	80	1 817	2.69	42	72	13	12 495	51	8.50
1971 ASM----	5 976	2 750	80	1 815	2.48	40	72	14	10 726	55	7.34
1970 ASM----	5 446	2 280	82	1 813	2.25	42	75	13	9 533	57	6.41
1969 ASM----	5 008	2 504	82	1 813	2.10	43	74	15	9 113	54	6.05
1968 ASM----	4 958	2 446	81	1 848	2.12	42	74	15	9 297	53	6.14
1967 Census--	4 582	2 322	84	1 841	1.94	43	74	15	8 275	55	5.33
1966 ASM----	4 012	(NA)	83	1 862	1.75	46	78	(NA)	6 730	59	4.30
1965 ASM----	3 914	(NA)	83	1 880	1.67	45	76	(NA)	7 042	55	4.48
1964 ASM----	4 126	1 512	84	1 930	1.71	48	77	10	7 420	55	4.57
1963 Census--	3 822	1 354	83	1 902	1.63	48	77	10	6 645	57	4.20

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3199, LEATHER GOODS, N.E.C.										
1977 Census--	7 913	(NA)	81	1 775	3.53	54	78	(NA)	15 938	49	11.05
1976 ASM----	8 507	5 549	81	1 827	3.95	55	77	13	18 140	46	12.15
1975 ASM----	7 702	4 891	82	1 672	3.83	52	75	14	15 743	48	11.42
1974 ASM----	6 445	4 337	87	1 630	3.20	51	75	16	13 567	47	9.47
1973 ASM----	6 173	3 693	82	1 870	2.78	53	78	15	8 240	74	5.32
1972 Census--	5 902	3 069	84	1 836	2.62	50	76	13	11 708	50	7.52

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3151, LEATHER GLOVES AND MITTENS													
United States	-	**101**	**66**	**5.5**	**33.9**	**4.7**	**8.2**	**25.5**	**67.6**	**111.8**	**178.0**	**1.9**	**4.9**	**43.0**
Middle Atlantic Division:													
New York	-	30	16	1.4	8.5	1.1	1.8	5.4	15.3	36.4	50.8	(D)	(NA)	(D)
East North Central Division:													
Indiana	-	3	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	1.5
Illinois	-	9	7	0.7	3.8	0.6	1.1	3.3	5.4	8.2	14.9	(D)	(NA)	(D)
Wisconsin	-	18	13	0.8	5.1	0.7	1.2	3.8	10.4	10.1	20.6	(D)	0.7	4.2
West North Central Division:														
Iowa	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.6
East South Central Division:														
Tennessee	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Louisiana	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	4	4	0.4	2.1	0.4	0.7	1.8	6.3	6.5	12.8	(D)	(NA)	(NA)
INDUSTRY 3161, LUGGAGE														
United States	-	**298**	**130**	**19.2**	**164.1**	**15.8**	**29.0**	**105.5**	**328.3**	**328.0**	**654.9**	**8.1**	**17.1**	**194.1**
New England Division:														
Massachusetts	E6	11	4	0.4	3.2	0.3	0.5	1.8	6.3	7.5	13.7	0.1	(NA)	(D)
Rhode Island	-	4	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	75	39	3.9	31.0	3.4	6.1	21.5	60.8	55.3	114.9	(D)	3.4	35.5
New Jersey	-	20	13	1.7	13.7	1.5	2.8	9.9	23.5	28.9	51.1	(D)	1.4	11.5
Pennsylvania	-	13	7	0.9	7.4	0.8	1.5	5.0	14.9	17.5	32.5	(D)	1.0	9.0
East North Central Division:														
Ohio	E1	10	4	0.3	2.4	0.3	0.5	1.6	5.1	3.5	8.5	(D)	(NA)	(D)
Indiana	-	8	7	0.7	4.7	0.6	1.1	3.7	7.1	5.2	12.2	(D)	(NA)	(D)
Illinois	E2	28	7	0.5	5.1	0.4	0.8	3.5	9.7	5.5	15.4	(D)	0.8	8.5
West North Central Division:														
Minnesota	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	5	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Delaware	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Maryland	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	11	5	0.6	4.1	0.6	1.0	3.4	7.8	7.8	15.5	(D)	0.2	1.7
East South Central Division:														
Tennessee	-	9	5	1.6	13.1	1.1	2.2	6.1	27.0	18.2	44.3	(D)	(NA)	(D)
Mississippi	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	-	6	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Arizona	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	E1	36	12	1.1	9.0	1.0	1.8	5.8	19.0	19.7	37.7	(D)	(NA)	(D)
INDUSTRY 3171, WOMEN'S HANDBAGS AND PURSES														
United States	E1	**418**	**186**	**20.3**	**144.0**	**18.2**	**32.8**	**109.1**	**266.5**	**241.9**	**505.2**	**6.6**	**22.2**	**201.5**
New England Division:														
Maine	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	E2	15	6	0.6	5.2	0.5	1.0	3.8	7.4	5.6	12.9	0.1	(NA)	(D)
Connecticut	-	7	6	1.1	7.8	1.0	1.8	6.1	11.7	12.1	23.8	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	195	100	8.4	62.4	7.4	13.6	45.3	130.7	125.1	254.7	(D)	10.8	98.8
New Jersey	E1	21	12	2.9	19.1	2.7	4.5	15.2	33.1	27.8	61.0	(D)	(NA)	(D)
Pennsylvania	E6	8	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Missouri	-	12	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	E1	11	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	E3	23	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	E3	8	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	E1	17	7	0.7	4.7	0.6	1.2	3.6	7.8	8.0	16.1	(D)	0.6	6.1
Pacific Division:														
California	E1	53	17	1.7	12.2	1.5	2.5	9.7	21.6	17.3	38.7	(D)	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3172, PERSONAL LEATHER GOODS														
United States	**E1**	**260**	**97**	**11.9**	**98.2**	**9.6**	**17.2**	**60.9**	**205.8**	**161.2**	**366.8**	**4.8**	**11.5**	**143.7**
New England Division:														
Massachusetts	–	23	8	1.8	16.4	1.4	2.4	8.9	31.0	18.8	49.8	0.6	(NA)	(D)
Rhode Island	–	12	10	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E2	79	39	3.1	23.9	2.6	4.4	14.6	46.9	49.4	95.6	(D)	3.8	42.4
New Jersey	–	13	8	0.7	5.2	0.6	1.0	3.2	17.0	9.9	26.5	(D)	(NA)	(D)
Pennsylvania	–	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	E6	7	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	E3	14	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	–	8	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Missouri	–	6	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Oklahoma	E7	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
New Mexico	–	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Arizona	–	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	E3	34	4	0.5	3.5	0.4	0.7	2.4	5.3	5.7	11.7	(D)	(NA)	(D)
INDUSTRY 3199, LEATHER GOODS, N.E.C.														
United States	**E1**	**532**	**117**	**8.6**	**67.9**	**7.0**	**12.4**	**43.7**	**136.7**	**154.0**	**284.2**	**4.1**	**7.2**	**84.3**
New England Division:														
New Hampshire	–	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	E1	26	6	0.5	3.7	0.4	0.8	3.1	8.7	7.7	16.2	0.1	(NA)	(D)
Middle Atlantic Division:														
New York	E3	87	16	1.2	9.4	1.0	1.6	5.9	16.5	18.5	34.3	(D)	(NA)	(D)
Pennsylvania	–	22	6	0.3	3.4	0.3	0.5	2.2	8.3	9.1	17.2	(D)	(NA)	(D)
East North Central Division:														
Illinois	E6	18	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	4.6
Michigan	E4	13	2	0.2	1.7	0.1	0.2	0.9	2.7	1.2	3.9	(D)	(NA)	(NA)
West North Central Division:														
Missouri	E1	14	4	0.2	1.8	0.2	0.3	1.1	3.2	2.8	5.9	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	E1	10	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.5
East South Central Division:														
Tennessee	–	19	12	0.8	6.0	0.6	1.1	3.8	14.3	16.4	29.8	(D)	1.0	12.5
West South Central Division:														
Oklahoma	E4	15	4	0.3	1.8	0.2	0.4	1.2	3.0	3.6	6.5	(D)	(NA)	(NA)
Texas	E1	61	16	1.5	10.8	1.1	2.0	5.7	24.1	26.4	47.2	(D)	0.6	7.7
Mountain Division:														
Colorado	E1	21	6	0.3	2.0	0.2	0.3	1.3	3.3	5.9	9.2	(D)	(NA)	(D)
Pacific Division:														
California	E1	75	13	1.2	9.6	1.0	1.8	6.9	20.1	22.1	41.4	(D)	(NA)	(D)

– Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Leather gloves and mittens (SIC 3151)	Luggage (SIC 3161)	Women's handbags and purses (SIC 3171)	Personal leather goods (SIC 3172)	Leather goods, n.e.c. (SIC 3199)
Primary product specialization ratio[1]	percent	83	94	97	95	94
Coverage ratio[2]	do	85	98	97	91	95
All establishments	number	101	298	418	260	532
With 1 to 19 employees	do	35	168	232	163	415
With 20 to 99 employees	do	48	86	135	71	102
With 100 employees or more	do	18	44	51	26	15
All employees, average for year	1,000	5.5	19.2	20.3	11.9	8.6
Payroll for year, all employees	mil. dol.	33.9	164.1	144.0	98.2	67.9
Production workers:						
Average for year	1,000	4.7	15.8	18.2	9.6	7.0
March	do	4.5	15.3	18.0	9.0	6.8
May	do	4.7	15.9	17.7	9.1	6.8
August	do	4.9	15.9	18.8	10.1	7.1
November	do	4.8	16.3	18.1	10.3	7.1
Hours	millions	8.2	29.0	32.8	17.2	12.4
January to March	do	1.9	6.7	8.3	3.8	3.1
April to June	do	2.1	7.7	7.9	4.4	3.2
July to September	do	2.0	7.2	8.2	4.3	3.1
October to December	do	2.1	7.3	8.5	4.7	3.0
Wages	mil. dol.	25.5	105.5	109.1	60.9	43.7
Cost of materials, etc.	do	111.8	328.0	241.9	161.2	154.0
Materials, parts, containers, etc., consumed	do	68.5	271.4	184.0	140.4	121.4
Resales	do	35.7	46.3	36.0	13.7	29.5
Fuels consumed	do	0.5	1.3	0.6	0.6	1.0
Purchased electric energy	do	0.8	3.2	2.8	2.4	1.2
Contract work	do	6.3	5.8	18.4	4.1	0.9
Value of shipments, including resales	do	178.0	654.9	505.2	366.8	284.2
Value of resales	do	51.4	41.6	59.8	17.4	40.6
Value added by manufacture	do	67.6	328.3	266.5	205.8	136.7
Manufacturers' inventories:						
Beginning of year	do	30.9	114.8	56.1	60.2	43.2
Finished products	do	14.1	52.1	25.3	32.7	17.8
Work in process	do	6.4	19.1	12.1	7.7	7.7
Materials, supplies, fuel, etc.	do	10.4	43.5	18.7	19.7	17.7
End of year	do	33.7	113.5	61.9	62.5	50.6
Finished products	do	14.9	56.3	26.9	31.9	22.6
Work in process	do	7.2	16.3	13.6	8.7	9.4
Materials, supplies, fuel, etc.	do	11.6	40.8	21.4	21.9	18.6
Capital expenditures for plant and equipment	do	2.2	8.9	6.7	5.2	4.6
New capital expenditures	do	1.9	8.1	6.6	4.8	4.1
New buildings and other structures	do	0.3	1.0	1.7	0.7	1.4
New machinery and equipment	do	1.6	7.1	4.9	4.1	2.7
Used capital expenditures	do	0.3	0.9	0.1	0.3	0.6

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Leather gloves and mittens (SIC 3151)		Luggage (SIC 3161)		Women's handbags and purses (SIC 3171)		Personal leather goods (SIC 3172)		Leather goods, n.e.c. (SIC 3199)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	(0.3)	(A)	(0.6)	26	(0.1)	(A)	(0.7)	20	(0.2)	45
Response coverage ratio[2] (percent)	45.1	(X)	61.9	(X)	46.3	(X)	70.6	(X)	70.8	(X)
Machinery	(1.3)	(A)	(1.3)	15	(0.6)	52	(1.0)	35	(0.7)	66
Response coverage ratio[2] (percent)	76.9	(X)	61.0	(X)	65.1	(X)	72.6	(X)	77.0	(X)
Cost of purchased communication services	(0.2)	39	(1.4)	17	(0.3)	33	(0.9)	25	(1.0)	46
Response coverage ratio[2] (percent)	76.0	(X)	52.7	(X)	67.0	(X)	78.8	(X)	78.0	(X)
Rental payments	(1.2)	19	6.1	11	7.1	12	3.9	8	(2.3)	24
Buildings and other structures	(1.1)	21	4.9	13	5.8	10	2.8	11	(2.1)	24
Machinery and equipment	(0.1)	37	1.2	12	(1.3)	39	(1.1)	18	(0.2)	45
Supplemental labor costs	5.1	8	24.3	4	21.4	4	17.7	3	10.1	10
Legal costs	(3.4)	15	12.4	3	12.3	5	8.2	4	4.9	8
Voluntary costs	(1.7)	46	11.9	6	9.1	9	9.5	6	(5.2)	16
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	(3.9)	41	30.5	11	9.3	14	11.1	8	(19.6)	26
New capital expenditures	(0.5)	40	(1.2)	39	(1.5)	16	(0.8)	32	(0.9)	49
Used capital expenditures	0.1	1	0.3	1	-	(X)	(0.4)	86	(0.4)	64
Retirements	(0.1)	(A)	(0.2)	50	0.4	10	1.1	4	(0.1)	(A)
End of year	(4.3)	19	31.8	10	10.4	13	11.2	7	(20.8)	25
Machinery and equipment:										
Beginning of year	10.9	12	46.6	6	26.6	9	22.6	8	(16.0)	17
New capital expenditures[3]	(1.9)	28	(8.3)	18	(5.4)	18	(3.9)	15	(2.6)	21
Automobiles, trucks, etc., for highway use[3]	(Z)	(A)	(0.2)	(A)	(0.4)	(A)	(0.1)	(A)	(0.6)	(A)
Computers and peripheral data processing equipment[3]	-	(X)	-	(X)	(0.3)	(A)	(0.2)	(A)	(0.1)	(A)
All other[3]	(1.2)	(A)	(3.7)	(A)	(1.5)	(A)	(2.3)	(A)	(0.4)	(A)
New machinery and equipment, n.s.k.[4]	(0.6)	(A)	(4.4)	(A)	(3.2)	(A)	(1.3)	(A)	(1.5)	(A)
Used capital expenditures	(0.1)	18	(0.6)	25	(0.3)	67	(0.3)	39	(1.4)	44
Retirements	(0.3)	(A)	3.8	7	1.8	11	1.6	12	(1.6)	29
End of year	12.6	8	51.7	5	30.4	8	25.1	8	18.5	13
Total gross value of depreciable assets:										
Beginning of year	(14.8)	18	77.0	7	35.9	8	33.7	6	(35.6)	19
New capital expenditures	(2.4)	27	(9.5)	18	(6.9)	15	4.7	14	(3.6)	27
Used capital expenditures	0.2	13	(0.9)	15	(0.3)	67	(0.7)	58	(1.8)	39
Retirements	(0.4)	(A)	3.9	9	2.2	9	2.7	8	(1.7)	32
End of year	17.0	6	83.5	6	40.8	6	36.3	5	(39.2)	16
Depreciation charges during 1977	(3.0)	47	5.2	6	3.6	7	3.5	8	(3.2)	15
Buildings and other structures	(0.7)	60	1.1	9	0.4	14	0.4	9	(0.9)	25
Machinery and equipment	(2.3)	44	4.1	6	3.1	7	3.1	9	(2.3)	23

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3151, LEATHER GLOVES AND MITTENS												
Total	-	101	5.5	33.9	4.7	8.2	25.5	67.6	111.8	178.0	1.9	33.7
Establishments with an average of—												
1 to 4 employees	E0	15	(Z)	(0.4)	(Z)	(0.1)	(0.2)	(0.8)	(1.8)	(3.0)	(1.3)	(15.0)
5 to 9 employees	E2	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	E2	14	0.2	1.3	0.2	0.3	0.9	2.7	2.1	4.8	(D)	(D)
20 to 49 employees	E1	24	0.8	4.4	0.6	1.0	3.4	7.5	6.9	14.2	(D)	(D)
50 to 99 employees	-	24	1.7	10.3	1.5	2.6	8.3	25.5	45.4	69.8	(D)	(D)
100 to 249 employees	-	16	(2.8)	(17.5)	(2.3)	(4.2)	(12.7)	(31.2)	(55.6)	(86.2)	(0.6)	(18.7)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	23	0.1	0.6	0.1	0.2	0.5	1.0	1.3	2.3	(Z)	0.4
INDUSTRY 3161, LUGGAGE												
Total	-	298	19.2	164.1	15.8	29.0	105.5	328.3	328.0	654.9	8.1	113.5
Establishments with an average of—												
1 to 4 employees	E7	76	0.2	1.4	0.2	0.2	0.9	2.7	2.5	5.4	(Z)	0.7
5 to 9 employees	E7	49	0.3	2.8	0.3	0.5	1.8	5.2	4.4	9.6	0.1	1.3
10 to 19 employees	E2	43	0.6	4.7	0.5	0.8	3.0	9.0	11.1	20.1	0.2	2.8
20 to 49 employees	E3	46	1.4	10.6	1.2	2.3	7.5	18.6	15.1	33.7	0.6	4.3
50 to 99 employees	E1	40	2.9	22.0	2.5	4.6	15.9	39.3	36.1	74.8	0.7	10.7
100 to 249 employees	-	28	4.2	33.2	3.6	6.5	22.1	78.2	84.5	159.6	1.8	32.5
250 to 499 employees	-	10	3.7	28.9	2.9	5.4	18.8	49.7	45.7	94.2	1.6	17.2
500 to 999 employees	-	4	(6.1)	(60.6)	(4.7)	(8.7)	(35.6)	(125.5)	(128.4)	(257.5)	(3.1)	(44.0)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	106	0.5	3.9	0.4	0.7	2.6	6.8	6.9	13.7	0.2	1.9
INDUSTRY 3171, WOMEN'S HANDBAGS AND PURSES												
Total	E1	418	20.3	144.0	18.2	32.8	109.1	266.5	241.9	505.2	6.6	61.9
Establishments with an average of—												
1 to 4 employees	E6	129	0.2	1.6	0.2	0.4	1.3	3.5	4.1	8.1	0.1	0.9
5 to 9 employees	E6	45	0.3	2.1	0.3	0.6	1.7	4.1	3.5	7.5	0.3	0.8
10 to 19 employees	E1	58	0.8	6.4	0.7	1.3	4.5	12.5	15.4	27.4	0.2	3.1
20 to 49 employees	E2	83	2.6	18.4	2.3	4.1	14.3	34.3	25.4	59.8	1.2	5.9
50 to 99 employees	E1	52	3.6	27.3	3.2	5.9	20.5	53.1	42.7	94.9	0.8	12.4
100 to 249 employees	-	33	5.4	38.4	4.8	8.7	29.0	82.1	80.3	161.0	2.1	19.2
250 to 499 employees	E3	15	5.2	35.7	4.7	8.5	27.2	55.7	50.3	105.0	1.4	13.4
500 to 999 employees	-	3	2.2	14.1	2.0	3.3	10.7	21.3	20.2	41.6	0.5	6.1
Covered by administrative records[2]	E0	135	0.5	3.3	0.5	0.8	2.5	6.3	5.1	11.4	0.2	1.3
INDUSTRY 3172, PERSONAL LEATHER GOODS												
Total	E1	260	11.9	98.2	9.6	17.2	60.9	205.8	161.2	366.8	4.8	62.5
Establishments with an average of—												
1 to 4 employees	E7	117	0.2	1.7	0.2	0.3	1.0	3.5	2.5	6.4	0.1	1.1
5 to 9 employees	E5	18	0.1	1.0	0.1	0.2	0.6	2.0	1.3	3.4	(Z)	0.5
10 to 19 employees	E3	28	0.4	3.1	0.3	0.8	1.8	6.0	4.4	10.4	0.1	1.2
20 to 49 employees	E2	39	1.2	9.0	1.0	1.7	6.0	18.0	15.0	33.0	0.4	4.5
50 to 99 employees	E1	32	2.3	17.5	1.8	3.1	10.3	42.0	33.9	76.3	0.6	14.3
100 to 249 employees	E2	17	2.6	20.1	2.1	3.9	13.5	41.9	35.6	76.3	1.5	15.2
250 to 499 employees	-	4	1.3	9.2	1.2	2.1	6.8	24.3	17.1	40.3	0.7	5.6
500 to 999 employees	-	5	3.7	36.6	2.9	5.0	20.9	68.0	51.4	120.8	1.4	20.1
Covered by administrative records[2]	E0	105	0.2	2.1	0.2	0.4	1.2	4.4	2.9	7.3	0.1	1.3
INDUSTRY 3199, LEATHER GOODS, N.E.C.												
Total	E1	532	8.6	67.9	7.0	12.4	43.7	136.7	154.0	284.2	4.1	50.6
Establishments with an average of—												
1 to 4 employees	E8	294	0.4	3.5	0.4	0.7	2.3	7.4	8.5	15.8	0.1	2.5
5 to 9 employees	E5	67	0.4	3.7	0.4	0.7	2.5	7.5	10.4	17.8	0.2	2.7
10 to 19 employees	E2	54	0.7	6.1	0.6	1.1	4.0	11.6	13.5	25.0	0.2	3.7
20 to 49 employees	E2	65	1.9	14.6	1.6	2.9	9.7	27.3	33.1	59.8	1.0	10.4
50 to 99 employees	-	37	2.5	20.7	2.0	3.7	13.0	40.7	44.7	83.9	1.0	14.1
100 to 249 employees	-	15	2.7	19.3	2.0	3.3	12.2	42.2	43.8	81.9	1.6	17.2
Covered by administrative records[2]	E9	268	0.6	4.5	0.6	0.8	3.0	9.0	11.0	20.0	0.2	3.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3151	**Leather gloves and mittens:**										
	Entire industry	101	5.5	33.9	4.7	8.2	25.5	67.6	111.8	178.0	1.9
	Establishments with 75 percent specialization or more	82	3.9	23.7	3.3	5.6	17.2	49.0	85.5	132.3	1.7
3161	**Luggage:**										
	Entire industry	298	19.2	164.1	15.8	29.0	105.5	328.3	328.0	654.9	8.1
	Establishments with 75 percent specialization or more	286	16.5	141.7	13.7	25.2	93.6	284.1	295.9	579.3	7.0
3171	**Women's handbags and purses:**										
	Entire industry	418	20.3	144.0	18.2	32.8	109.1	266.5	241.9	505.2	6.6
	Establishments with 75 percent specialization or more	386	18.5	130.3	16.6	30.1	98.8	246.0	228.9	471.3	6.2
3172	**Personal leather goods:**										
	Entire industry	260	11.9	98.2	9.6	17.2	60.9	205.8	161.2	366.8	4.8
	Establishments with 75 percent specialization or more	243	10.9	90.3	8.9	15.8	56.4	186.7	145.5	332.9	3.7
3199	**Leather goods, n.e.c.:**										
	Entire industry	532	8.6	67.9	7.0	12.4	43.7	136.7	154.0	284.2	4.1
	Establishments with 75 percent specialization or more	504	7.5	58.3	6.1	10.9	38.0	117.2	134.3	245.2	3.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3151	Leather gloves and mittens....1977..	178.0	104.1	20.9	53.0	83	121.9	104.1	17.8	85
	1972..	98.2	67.8	5.4	24.9	92	79.9	67.8	12.1	84
	1967..	86.7	61.6	6.6	18.5	90	73.3	61.6	11.7	84
3161	Luggage....1977..	654.9	575.3	34.2	45.4	94	585.3	575.3	10.0	98
	1972..	364.5	314.0	25.5	25.0	92	321.9	314.0	7.9	97
	1967..	334.2	308.5	13.7	12.0	96	320.1	308.5	11.6	94
3171	Women's handbags and purses....1977..	505.2	425.1	13.3	66.8	97	436.2	425.1	11.1	97
	1972..	365.0	334.2	15.0	15.7	95	344.4	334.2	10.2	97
	1967..	327.2	304.9	7.5	14.8	98	312.1	304.9	7.2	98
3172	Personal leather goods....1977..	366.8	335.5	12.4	18.8	96	369.2	335.5	33.7	91
	1972..	242.2	211.0	12.7	18.4	94	231.8	211.0	20.8	91
	1967..	186.2	163.9	10.4	11.9	94	178.9	163.9	15.0	92
3199	Leather goods, n.e.c....1977..	284.2	225.4	13.6	45.2	94	237.4	225.4	12.0	95
	[1]1972..	161.3	132.1	10.1	19.2	92	146.1	132.1	14.0	90
	[2]1967..	96.5	77.7	5.4	13.4	94	89.9	77.7	12.2	82

n.e.c. Not elsewhere classified.

[1]New SIC basis.

[2]Old SIC basis.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Leather gloves and mittens (SIC 3151)	Luggage (SIC 3161)	Women's handbags and purses (SIC 3171)	Personal leather goods (SIC 3172)	Leather goods, n.e.c. (SIC 3199)	Other industries
	Total	(X)	178.0	654.9	505.2	366.8	284.2	(X)
	Primary products	(X)	104.1	575.3	425.1	335.5	225.4	(X)
	Secondary products	(X)	20.9	34.2	13.3	12.4	13.6	(X)
	Miscellaneous receipts	(X)	53.0	45.4	66.8	18.8	45.2	(X)
31510	Leather dress and work gloves and mittens	121.9	104.1	-	-	-	-	17.8
31610	Suitcases, briefcases, bags, and cases	585.3	-	575.3	(D)	(D)	(D)	5.6
31710	Women's and children's handbags and purses	436.2	(Z)	2.9	425.1	(D)	(D)	(D)
31720	Personal leather goods, except handbags	369.2	(Z)	(D)	(D)	335.5	(D)	18.4
31990	Other leather products, n.e.c	237.4	(D)	(D)	(D)	.8	225.4	(D)
	Other shipments by 4-digit product group:							
2381-	Fabric dress and work gloves	(X)	(D)	-	-	-	-	(X)
2387-	Apparel belts	(X)	-	-	5.0	(D)	(D)	(X)
2399-	Fabricated textile products, n.e.c	(X)	-	(D)	-	-	(D)	(X)
2841-	Soap and other detergents	(X)	-	(D)	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	-	(D)	-	.7	(D)	(X)
3949-	Sporting and athletic goods, n.e.c	(X)	-	(D)	-	-	(D)	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	(D)	(D)	7.0	1.4	3.5	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	(D)	.1	-	1.1	(X)
99989 00	Resales	(X)	51.4	41.6	59.8	17.4	40.6	(X)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
3151-	2381 Fabric dress and work gloves	16.0	3172-	2387 Apparel belts	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	LEATHER GLOVES AND MITTENS						
3151- --	Total	1,000 doz. pr.	(NA)	2,848	121.9	2,725	79.9
31510 --	Leather gloves and mittens:						
	As reported in the census of manufactures:[3]						
	Gloves and mittens, all leather, including fur:						
31510 20	Dress and semidress		20	412	27.9	426	19.3
31510 70	Work gloves and mittens		52	2,233	85.1	2,054	53.5
	As reported in Current Industrial Reports MA-23D, Gloves and Mittens:[3]						
	All leather dress and semidress gloves and mittens		(NA)	412	27.0	441	20.7
	Block cut:						
31510 14	Men's and boys'		(NA)	(NA)	(X)	212	(X)
31510 54	Women's and children's		(NA)	(NA)	(X)	77	(X)
	Other than block cut:						
31510 17	Men's and boys'		(NA)	(NA)	(X)	102	(X)
31510 57	Women's and children's		(NA)	(NA)	(X)	50	(X)
	All leather work gloves and mittens		(NA)	2,315	87.9	2,024	50.0
31510 81	All grain, except welders		(NA)	1,173	(X)	1,296	(X)
31510 83	All split, except welders		(NA)	396	(X)	402	(X)
31510 89	Leather, except all grain and all split, including welders		(NA)	463	(X)	326	(X)
31510 90	All leather work gloves and mittens, n.s.k.		(NA)	283	(X)	(X)	(X)
31510 00	Leather gloves and mittens, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	[4]148	6.7	[4]110	3.2
31510 02	Leather gloves and mittens, n.s.k., typically for establishments with less than 5 employees (see note)	1,000 doz. pr.	(NA)	[4]55	2.3	[4]135	3.9
	LUGGAGE						
3161- --	Total		(NA)	(X)	585.3	(X)	321.9
31610 --	Suitcases, briefcases, bags, and musical instrument cases:						
	Women's hand luggage, all types, except zippered	Thousands	(NA)	5,123	107.2	7,290	92.5
31610 16	Hard side		7	(D)	(D)	[5]995	11.6
31610 18	Soft side (lock construction)		17	*1,946	35.5	1,855	28.7
31610 24	Molded (fully molded and semimolded)		6	(D)	(D)	4,440	52.2
	Men's hand luggage, all types, except zippered		(NA)	2,957	65.8	2,569	45.9
31610 35	Hard side		3	1,398	30.1	[5]307	6.7
31610 37	Soft side (lock construction)		13			[5]872	15.8
31610 32	Molded (fully molded or semimolded)		6	1,559	35.7	[5]1,390	23.4
31610 39	Zippered hand luggage, men's and women's		34	*9,917	147.1	7,237	55.9
31610 53	Occupational luggage cases, sample cases, binocular and camera cases		24	**3,570	32.5	[5]2,503	17.5
31610 63	Trunks, hand trunks, and lockers		7	**1,620	19.3	[3]990	8.5
31610 73	Briefcases, brief bags, school bags, envelopes, catalog cases, and zippered ring binders		18	5,395	27.8	[5]1,604	12.4
31610 81	Musical instrument cases		12	641	9.0	1,232	12.5
31610 84	Attache cases	Thousands	23	*3,876	58.3	2,065	22.1
31610 98	Other luggage		24	X	38.6	(X)	13.9
31610 00	Luggage, n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	66.0	(X)	31.2
31610 02	Luggage, n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	(X)	13.7	(X)	9.8
	WOMEN'S HANDBAGS AND PURSES						
3171- --	Total		(NA)	(X)	436.2	(X)	344.4
31710 --	Women's and children's handbags and purses:						
31710 11	All leather and chiefly leather	Millions	52	(S)	109.4	7.7	67.2
31710 51	Plastics or chiefly plastics		67	**25.1	154.6	64.0	196.9
31710 71	Other materials, except precious metal	Millions	35	(S)	53.2	4.6	27.9
31710 00	Women's and children's handbags and purses, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	107.6	(X)	43.2
31710 02	Women's and children's handbags and purses, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	11.4	(X)	9.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	PERSONAL LEATHER GOODS						
3172- --	Total		(NA)	(X)	369.2	(X)	231.8
31720 --	Personal leather goods, except handbags and purses:						
	Billfolds, wallets, French purses, and clutches	Thousands	(NA)	(S)	136.0	35,403	93.0
31720 11	Leather		26	*23,078	125.3	24,118	78.9
31720 15	Other than leather (plastic, fiber, etc.)		6	(S)	10.7	11,285	14.1
31720 31	Travel kits (fitted and unfitted)		12	(S)	21.9	2,693	10.5
31720 53	Jewelry boxes and cases	Thousands	16	**13,091	47.1	22,634	23.3
	Other personal goods, including key, cigarette, eyeglass, pass card, vanity, and instrument (except musical) cases; pocket secretaries; tobacco pouches; cosmetic bags; etc.		(NA)	(X)	97.9	(X)	70.5
31720 96	Leather		29	(X)	55.8	(X)	70.5
31720 97	Other than leather (plastic, fiber, etc.)		29	(X)	42.1		
31720 00	Small leather goods, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	59.0	(X)	26.7
31720 02	Small leather goods, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	7.3	(X)	7.8

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	LEATHER GOODS, N.E.C.			
3199- --	Total	(NA)	237.4	146.1
31990 --	Saddlery, harness, whips, and other leather products, n.e.c.:			
31990 11	Leather novelties	11	11.6	9.2
31990 31	Saddlery and harness and accouterments	27	28.1	32.0
31990 91	Industrial leather belting and other industrial leather products made wholly or partly of leather, including textile leather, but excluding gaskets and washers	27	37.3	12.1
31990 96	Dog collars, leashes, and other household pet accessories made of leather	11	15.8	40.1
31990 97	Other leather goods (desk sets, holsters, etc.)	34	48.2	
31990 00	Leather goods, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	76.4	35.0
31990 02	Leather goods, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	20.0	17.7

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Difference between data collected in census of manufactures and CIR is result of reporting differences for individual plant furnishing data in both surveys.

[4]Quantity was estimated based on quantity-value relationship of all other products in this industry.

[5]20 to 50 percent of quantity was estimated.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(Not applicable to this report)

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
31510	Leather dress and work gloves and mittens.....	121.9	(104.6)	92.2	115.9	100.8	79.9	73.3	61.9
31610	Suitcases, briefcases, bags, and cases.....	585.3	471.0	430.6	424.8	385.8	321.9	320.1	204.8
31710	Women's and children's handbags and purses.....	436.2	448.8	403.5	361.8	351.5	344.4	312.1	266.1
31720	Personal leather goods, except handbags.....	369.2	381.4	340.0	301.6	252.0	231.8	178.9	154.3
31990	Other leather products, n.e.c.....	237.4	(223.7)	194.2	150.6	169.2	[2]146.1	109.0	83.9

n.e.c. Not elsewhere classified.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures shown in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]New SIC basis.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3151, LEATHER GLOVES AND MITTENS					
	Materials, containers, and supplies	.....	(X)	68.5	(X)	36.2
311100	Finished leather	Million sq. ft	74.1	46.8	e56.5	25.6
220123	Broad woven fabrics	Mil. lin. yd..	4.2	4.1	(NA)	3.1
225078	Purchased knitted fabrics	Million lb....	3.7	4.1	(NA)	1.1
970099	All other materials and components, parts, containers, and supplies	.....	(X)	9.0	(X)	2.7
971000	Materials, containers, and supplies, n.s.k.[2]	.....	(X)	4.5	(X)	3.7
	INDUSTRY 3161, LUGGAGE					
	Materials, containers, and supplies	.....	(X)	271.4	(X)	145.5
220129	Broad woven fabrics (piece goods)	Mil. lin. yd...	19.0	15.5	318.8	11.6
229503	Coated, impregnated, or laminated plastics on cloth backing, including artificial leather	Mil. lin. yd...	**50.4	51.3	22.9	21.2
260005	Paper and paperboard products, except shipping and packaging materials	.....	(X)	7.0		
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	*32.1	13.7	(X)	62.7
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	7.6		
311100	Finished leather	.....	(X)	7.7	(X)	4.6
342983	Trunk and luggage hardware, including locks	.....	(X)	34.0	(X)	24.2
970099	Other materials and components, parts, containers, and supplies	.....	(X)	84.8	(X)	21.3
971000	Materials, containers, and supplies, n.s.k.[2]	.....	(X)	49.8		
	INDUSTRY 3171, WOMEN'S HANDBAGS AND PURSES					
	Materials, parts, containers, and supplies	.....	(X)	184.0	(X)	147.7
220129	Broad woven fabrics (piece goods)	Mil. lin. yd...	(S)	12.1	37.7	7.7
229503	Coated, impregnated, or laminated plastics on cloth backing, including artificial leather	Mil. lin. yd...	(S)	23.1	324.4	40.0
260005	Paper and paperboard products, except shipping and packaging materials	.....	(X)	1.1	(NA)	(4)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(X)	23.0	(NA)	20.1
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....				
311100	Finished leather	.....	(X)	34.0	(NA)	25.1
342983	Trunk and luggage hardware, including locks	.....	(X)	2.1	(X)	8.3
970099	Other materials and components, parts, containers, and supplies	.....	(X)	31.9	(X)	423.5
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	56.7	(X)	23.0
	INDUSTRY 3172, PERSONAL LEATHER GOODS					
	Materials, parts, containers, and supplies	.....	(X)	140.4	(X)	88.4
220129	Broad woven fabrics (piece goods)	Mil. lin. yd...	(S)	6.2	38.0	5.1
229503	Coated, impregnated, or laminated plastics on cloth backing, including artificial leather	Mil. lin. yd...	(S)	7.0	34.9	6.2
260005	Paper and paperboard products, except shipping and packaging materials	.....	(X)	2.6	(X)	(5)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	11.6	1.2	(X)	(5)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	14.2		
311100	Finished leather	.....	(X)	34.6	(X)	18.5
342983	Trunk and luggage hardware, including locks	.....	(X)	1.6	(X)	(5)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	35.8	(NA)	538.0
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	37.2	(X)	20.6

1977 material code	Material	1977, delivered cost (million dollars)	1972, delivered cost (million dollars)
	INDUSTRY 3199, LEATHER GOODS, N.E.C.		
	Materials, parts, containers, and supplies	121.4	66.9
311100	Finished leather	27.1	23.8
970099	All other materials and components, parts, containers, and supplies	38.1	19.8
971000	Materials, parts, containers, and supplies, n.s.k.[2]	56.2	23.3

e20 to 50 percent of quantity was estimated. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]20 to 50 percent of quantity was estimated.

[4]For 1972, material code 260005 was included with material code 970099.

[5]For 1972, material codes 260005, 282104, 307903, and 342983 were included with material code 970099.

Glass Products

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DESCRIPTION OF INDUSTRIES

GLASS PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title	
3211	Flat Glass
3221	Glass Containers
3229	Pressed and Blown Glass, N.E.C.
3231	Products of Purchased Glass

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3211, FLAT GLASS

This industry comprises establishments primarily engaged in the manufacture of flat glass. This industry also produces laminated glass, but establishments primarily engaged in the manufacture of laminated glass from purchased flat glass are classified in industry 3231.

The total value of shipments for establishments classified in the Flat Glass industry amounted to $1,577 million in 1977, an increase of 68 percent from 1972. The value of shipments of products classified as primary to the industry was $1,818 million, an increase of 46 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $931 million in 1977, was 41 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 21.9 thousand employees, an increase of 5 percent from 1972. The leading States in employment were Ohio, Tennessee, Illinois, and Pennsylvania, accounting for approximately 60 percent of the industry's 1977 employment. Data for these states have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of sheet, plate, and float glass only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of sheet, plate, and float glass are reported quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-32A, Flat Glass. Some of these data are also shown in table 6a.

Certain products primary to industry 3211 are also primary to industry 3231.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments. Prior to 1977 establishments for which administrative record data were used were not tabulated in industry 3211. Therefore, company and establishment counts for 1977 are not consistent with prior censuses.

INDUSTRY 3221, GLASS CONTAINERS

This industry comprises establishments primarily engaged in the manufacture of glass containers for commercial packing and bottling and for home canning.

The total value of shipments for establishments classified in the Glass Containers industry amounted to $3,664 million in 1977, an increase of 72 percent from 1972. The value of shipments of products classified as primary to the industry was $3,618 million, an increase of 74 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,139 million in 1977, was 53 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 70.8 thousand employees, a decrease of 3 percent from 1972. The leading States in employment were New Jersey, California, Pennsylvania, and Illinois, accounting for approximately 55 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of glass containers only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of glass containers are reported monthly in the Census Bureau's Current Industrial Reports (CIR) M32G, Glass Containers. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 3229, PRESSED AND BLOWN GLASS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of glass and glassware, not elsewhere classified, pressed, blown, or shaped from glass produced in the same establishment. This industry also includes establishments primarily engaged in the manufacture of textile glass fibers, but establishments primarily engaged in the manufacture of glass wool insulation products are classified in industry 3296.

Establishments primarily engaged in the production of pressed lenses for vehicular lighting, beacons, and lanterns are also included in this industry, but establishments primarily engaged in the production of optical lenses are classified in industry 3832. Establishments primarily engaged in the manufacture of glass containers are classified in industry 3221, and complete electric light bulbs in industry 3641.

The total value of shipments for establishments classified in the Pressed and Blown Glassware industry amounted to $2,120 million in 1977, an increase of 67 percent from 1972. The value of shipments of products classified as primary to the industry was $2,101 million, an increase of 66 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,453 million in 1977, was 54 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 46.2 thousand employees, an increase of 1 percent from 1972. The leading States in employment were Ohio, West Virginia, Pennsylvania, and South Carolina, accounting for approximately 60 percent of the industry's 1977 employment. Data for Ohio and South Carolina have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of pressed and blown glassware only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of pressed and blown glassware are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-32E, Consumer, Scientific, Technical, and Industrial Glassware, and MA-32J, Fibrous Glass. Some of these data are also shown in table 6a.

Certain products primary to industry 3229 are also primary to industry 3231.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3231, PRODUCTS OF PURCHASED GLASS

This industry comprises establishments primarily engaged in the manufacture of glass products from purchased glass. Establishments primarily engaged in the manufacture of optical lenses and ophthalmic lenses are classified in major group 38.

The total value of shipments for establishments classified in the Products of Purchased Glass industry amounted to $1,842 million in 1977, an increase of 39 percent from 1972. The value of shipments of products classified as primary to the industry was $2,350 million, an increase of 56 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $960 million in 1977, was 44 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 36.2 thousand employees, an increase of 8 percent from 1972. The leading States in employment were Pennsylvania, New York, California, and Michigan, accounting for approximately 45 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of pressed and blown glassware only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of consumer, scientific and industrial glassware are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-32E, Consumer, Scientific, Technical, and Industrial Glassware. Some of these data are also shown in table 6a.

Certain products primary to industry 3231 are also primary to industries 3211 and 3229. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3211, FLAT GLASS																
1977 Census--	43	62	32	21.9	401.0	18.5	39.9	328.2	931.0	656.0	1 576.6	81.1	(NA)	211.4	[7]90	(D)
1976 ASM----	(NA)	(NA)	(NA)	21.9	352.5	18.4	38.4	286.7	837.5	520.0	1 335.6	39.6	1 278.1	191.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	20.6	297.7	16.8	33.5	234.6	653.6	338.1	1 006.3	(S)	1 340.2	171.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	21.5	277.2	17.7	36.1	218.2	601.0	345.2	936.5	(S)	1 183.9	148.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	22.0	276.3	18.4	38.4	222.1	727.8	327.8	1 043.2	172.2	1 047.8	125.4	(NA)	(NA)
1972 Census--	11	32	30	20.9	241.9	17.0	37.0	194.2	662.1	281.0	937.1	95.0	917.7	100.7	[7]85	(D)
1971 ASM----	(NA)	(NA)	(NA)	20.2	212.8	16.7	35.2	170.6	569.0	240.3	811.1	72.6	821.0	98.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	19.6	198.1	16.0	33.8	157.4	457.4	212.7	668.0	75.5	781.9	102.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	22.4	213.4	18.5	39.0	171.2	514.1	223.1	723.8	48.9	746.7	101.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	22.0	196.4	18.4	39.2	158.7	479.6	202.0	679.9	33.4	724.4	84.8	(NA)	(NA)
1967 Census--	(NA)	33	32	23.9	196.6	19.8	40.2	157.6	422.9	194.7	611.3	59.9	761.4	93.1	[7]85	(D)
1966 ASM----	(NA)	(NA)	(NA)	24.9	205.9	21.0	43.8	169.5	431.2	205.2	638.1	74.4	(NA)	89.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	25.3	205.3	21.5	45.5	171.7	461.7	216.7	676.5	40.6	(NA)	87.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	22.5	178.7	19.1	41.6	149.4	382.5	195.0	569.5	22.3	583.4	81.4	(NA)	(NA)
1963 Census--	11	31	30	22.8	172.2	19.4	39.7	143.8	364.5	185.9	549.4	28.2	566.4	72.7	[7]90	(D)
INDUSTRY 3221, GLASS CONTAINERS																
1977 Census--	31	126	124	70.8	975.4	62.5	120.1	823.0	2 138.9	1 495.3	3 664.2	220.9	(NA)	408.7	99	99
1976 ASM----	(NA)	(NA)	(NA)	71.3	897.5	63.1	124.6	758.6	1 988.5	1 352.5	3 299.8	233.8	1 787.0	427.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	70.0	783.6	61.8	116.6	658.5	1 866.5	1 193.0	3 047.0	177.3	1 585.0	390.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	67.6	702.6	59.7	116.2	595.9	1 498.5	995.1	2 466.6	125.8	1 428.6	340.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	73.1	701.8	64.5	125.5	590.4	1 487.9	818.1	2 286.8	120.9	1 351.5	303.4	(NA)	(NA)
1972 Census--	27	117	115	72.9	659.4	64.5	128.1	554.8	1 399.7	746.9	2 126.5	121.1	1 258.0	271.9	99	99
1971 ASM----	(NA)	(NA)	(NA)	72.2	608.2	63.9	125.7	511.5	1 284.7	697.1	1 943.6	119.5	1 147.3	245.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	74.3	578.6	66.3	131.1	491.0	1 219.2	649.9	1 857.7	125.7	1 063.5	205.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	71.5	518.8	63.5	124.4	439.0	1 112.4	587.7	1 664.7	118.0	969.0	189.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	63.9	435.4	56.4	110.0	367.5	907.4	495.5	1 407.3	74.3	853.3	149.9	(NA)	(NA)
1967 Census--	39	120	112	66.7	426.1	59.4	119.4	362.3	842.2	489.1	1 352.4	70.8	826.4	154.3	99	99
1966 ASM----	(NA)	(NA)	(NA)	64.5	391.3	57.4	115.1	332.4	763.1	460.9	1 207.5	116.8	(NA)	172.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	61.5	358.3	54.8	109.0	303.4	679.4	418.3	1 091.8	72.3	(NA)	151.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	60.4	340.9	53.8	108.8	279.7	646.6	414.4	1 055.9	59.5	628.3	143.6	(NA)	(NA)
1963 Census--	40	113	105	60.0	328.0	53.5	107.1	278.7	629.6	392.5	1 004.5	53.8	574.2	137.3	99	99
INDUSTRY 3229, PRESSED AND BLOWN GLASS, N.E.C.																
1977 Census--	325	382	125	46.2	572.8	38.6	74.4	445.9	1 452.8	675.3	2 120.1	143.6	(NA)	350.7	97	96
1976 ASM----	(NA)	(NA)	(NA)	43.6	505.4	36.5	71.9	395.5	1 278.4	577.7	1 854.8	109.6	1 243.2	321.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	40.8	435.5	33.9	66.1	336.5	1 064.9	475.2	1 505.6	100.3	1 129.7	309.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	51.3	487.7	43.4	83.8	386.3	1 068.0	504.2	1 545.7	137.6	1 076.2	283.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	49.4	448.5	42.5	85.4	361.7	1 051.5	405.2	1 429.8	93.7	953.7	228.8	(NA)	(NA)
1972 Census--	211	252	110	45.9	398.1	39.3	78.6	317.8	941.4	337.2	1 267.3	55.6	882.3	187.9	97	96
1971 ASM----	(NA)	(NA)	(NA)	43.8	343.4	37.0	72.0	268.8	802.4	312.3	1 108.4	54.8	859.8	176.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	44.0	327.3	37.4	73.6	259.5	741.0	290.1	1 017.4	78.1	838.9	165.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	46.4	327.3	40.0	79.2	262.4	756.5	278.9	1 023.3	76.4	748.3	150.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	44.9	294.3	38.8	77.4	238.0	722.9	265.2	987.3	63.7	670.6	136.4	(NA)	(NA)
1967 Census--	139	185	113	42.5	262.3	36.5	72.2	211.6	658.9	237.2	886.2	81.9	618.5	128.6	97	98
1966 ASM----	(NA)	(NA)	(NA)	43.2	266.5	37.9	76.3	222.2	708.7	233.8	926.6	92.5	(NA)	120.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	39.8	232.4	34.7	68.7	191.1	569.2	220.5	787.7	54.7	(NA)	105.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	38.4	216.5	32.7	65.9	175.7	529.8	211.0	731.0	38.8	406.0	101.6	(NA)	(NA)
1963 Census--	75	107	95	38.0	207.3	33.1	64.9	167.9	472.2	167.5	630.9	22.7	379.0	95.4	96	97
INDUSTRY 3231, PRODUCTS OF PURCHASED GLASS																
1977 Census--	1 001	1 101	325	36.2	429.2	28.8	56.7	305.9	960.2	896.5	1 842.4	73.4	(NA)	285.6	[7]95	(D)
1976 ASM----	(NA)	(NA)	(NA)	34.6	398.2	27.0	51.1	271.8	829.1	835.6	1 651.1	47.3	484.5	270.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	32.5	341.0	25.2	47.6	234.3	664.9	665.3	1 336.1	49.0	463.9	245.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	36.4	357.2	29.1	55.9	254.9	747.5	740.9	1 462.7	65.4	467.6	277.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	37.1	348.6	29.8	59.5	250.6	742.8	779.4	1 515.1	43.8	461.4	232.8	(NA)	(NA)
1972 Census--	817	913	284	33.7	296.1	27.0	53.5	211.8	668.9	672.0	1 330.1	34.5	461.8	209.6	[7]90	(D)
1971 ASM----	(NA)	(NA)	(NA)	32.4	264.3	25.7	51.8	188.8	566.5	600.0	1 156.6	21.9	348.4	191.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	32.3	246.5	25.7	50.9	174.1	486.5	504.4	990.0	23.3	367.9	180.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	34.2	237.1	27.8	55.7	172.6	504.7	551.5	1 044.2	39.5	291.6	171.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	31.2	213.0	25.4	51.4	158.0	466.7	487.7	951.1	27.7	258.4	151.1	(NA)	(NA)
1967 Census--	845	887	258	29.2	182.1	23.9	47.4	134.7	393.9	407.2	794.7	21.9	242.2	133.6	[7]90	(D)
1966 ASM----	(NA)	(NA)	(NA)	29.6	179.9	24.4	48.9	131.7	376.1	392.3	754.1	42.8	(NA)	119.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	28.7	164.3	23.8	47.6	122.6	369.9	358.2	722.0	19.5	(NA)	105.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	26.6	150.0	22.0	44.3	111.5	323.3	335.1	644.1	40.8	225.6	101.5	(NA)	(NA)
1963 Census--	1 016	1 044	249	26.2	138.3	21.7	43.4	103.9	309.7	320.3	627.3	13.2	188.1	88.9	[7]90	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3211, FLAT GLASS											
1977 Census--	18 289	(NA)	84	2 160	8.22	41	67	(NA)	42 465	43	23.33
1976 ASM----	16 095	58 360	84	2 086	7.46	38	65	95	38 242	42	21.80
1975 ASM----	14 451	65 058	81	1 994	7.00	33	63	133	31 728	45	19.51
1974 ASM----	12 893	55 065	82	2 039	6.04	36	66	126	27 953	46	16.64
1973 ASM----	12 559	47 627	83	2 086	5.78	31	57	100	33 081	37	18.95
1972 Census--	11 574	43 909	81	2 176	5.24	29	55	97	31 679	36	17.89
1971 ASM----	10 534	40 643	82	2 107	4.84	29	55	101	28 168	37	16.16
1970 ASM----	10 107	39 892	81	2 112	4.65	31	61	117	23 336	43	13.53
1969 ASM----	9 526	33 334	82	2 108	4.38	30	60	103	22 950	41	13.18
1968 ASM----	8 927	32 927	83	2 130	4.04	29	58	106	21 800	40	12.23
1967 Census--	8 225	31 857	82	2 030	3.92	31	64	124	17 694	46	10.51
1966 ASM----	8 269	(NA)	84	2 085	3.86	32	64	(NA)	17 317	47	9.84
1965 ASM----	8 114	(NA)	84	2 116	3.77	32	62	(NA)	18 249	44	10.14
1964 ASM----	7 942	25 928	84	2 178	3.59	34	66	102	17 000	47	9.19
1963 Census--	7 552	24 842	85	2 046	3.62	33	65	103	15 986	47	9.18
INDUSTRY 3221, GLASS CONTAINERS											
1977 Census--	13 781	(NA)	88	1 919	6.85	40	67	(NA)	30 220	45	17.60
1976 ASM----	12 587	25 063	88	1 974	6.08	40	68	54	27 889	45	15.95
1975 ASM----	11 194	22 642	88	1 886	5.64	39	64	52	26 664	41	16.00
1974 ASM----	10 393	21 133	88	1 946	5.12	40	68	57	22 167	46	12.89
1973 ASM----	9 600	18 488	88	1 945	4.70	35	66	59	20 354	47	11.85
1972 Census--	9 045	17 256	88	1 986	4.33	35	66	59	19 200	47	10.92
1971 ASM----	8 423	15 890	88	1 967	4.06	35	67	59	17 793	47	10.22
1970 ASM----	7 787	14 313	89	1 977	3.74	34	66	57	16 409	47	9.29
1969 ASM----	7 255	13 552	88	1 959	3.52	35	66	58	15 558	46	8.94
1968 ASM----	6 813	13 353	88	1 950	3.34	35	66	60	14 200	47	8.24
1967 Census--	6 388	12 389	89	2 010	3.03	36	67	61	12 626	50	7.05
1966 ASM----	6 066	(NA)	88	2 005	2.88	38	70	(NA)	11 831	51	6.62
1965 ASM----	5 826	(NA)	89	1 989	2.78	38	71	(NA)	11 047	52	6.23
1964 ASM----	5 644	10 402	89	2 022	2.57	39	71	59	10 705	52	5.94
1963 Census--	5 466	9 570	89	2 001	2.60	39	71	57	10 493	52	5.87
INDUSTRY 3229, PRESSED AND BLOWN GLASS, N.E.C.											
1977 Census--	12 392	(NA)	83	1 927	5.99	31	58	(NA)	31 430	39	19.52
1976 ASM----	11 591	28 513	83	1 969	5.50	31	58	67	29 321	39	17.78
1975 ASM----	10 674	27 688	83	1 949	5.09	31	60	75	26 100	40	16.11
1974 ASM----	9 506	20 978	84	1 930	4.60	32	64	69	20 818	45	12.74
1973 ASM----	9 078	19 305	86	2 009	4.23	28	59	66	21 285	42	12.31
1972 Census--	8 673	19 222	85	2 000	4.04	26	58	69	20 509	42	11.97
1971 ASM----	7 840	19 630	84	1 945	3.73	28	59	77	18 319	42	11.14
1970 ASM----	7 438	19 065	85	1 967	3.52	28	60	82	16 840	44	10.06
1969 ASM----	7 053	16 127	86	1 980	3.31	27	59	73	16 303	43	9.55
1968 ASM----	6 554	14 935	86	1 994	3.07	26	56	67	16 100	40	9.33
1967 Census--	6 171	14 552	85	1 978	2.93	26	56	69	15 503	39	9.12
1966 ASM----	6 168	(NA)	87	2 013	2.91	25	53	(NA)	16 405	37	9.28
1965 ASM----	5 839	(NA)	87	1 979	2.78	27	57	(NA)	14 301	40	8.28
1964 ASM----	5 638	10 572	85	2 015	2.66	28	58	55	13 796	40	8.03
1963 Census--	5 455	9 973	87	1 960	2.58	26	59	60	12 426	43	7.27
INDUSTRY 3231, PRODUCTS OF PURCHASED GLASS											
1977 Census--	11 848	(NA)	79	1 965	5.39	48	71	(NA)	26 504	44	16.94
1976 ASM----	11 508	14 002	78	1 892	5.31	50	74	29	23 962	48	16.22
1975 ASM----	10 492	14 273	77	1 888	4.92	49	75	34	20 458	51	13.96
1974 ASM----	9 813	12 846	79	1 920	4.55	50	75	31	20 535	47	13.37
1973 ASM----	9 396	12 436	80	1 996	4.21	51	74	30	20 021	46	12.48
1972 Census--	8 786	13 703	89	1 981	3.95	50	72	34	19 847	44	12.50
1971 ASM----	8 157	10 753	79	2 015	3.64	51	74	30	17 484	46	10.93
1970 ASM----	7 631	11 390	79	1 980	3.42	50	75	37	15 061	50	9.55
1969 ASM----	6 932	8 526	81	2 003	3.09	52	75	27	14 757	46	9.06
1968 ASM----	6 826	8 282	81	2 023	3.07	51	73	27	14 958	45	9.07
1967 Census--	6 236	8 294	81	1 983	2.84	51	74	30	13 489	46	8.31
1966 ASM----	6 077	(NA)	82	2 004	2.69	52	75	(NA)	12 706	47	7.69
1965 ASM----	5 724	(NA)	82	2 000	2.57	49	72	(NA)	12 888	44	7.77
1964 ASM----	7 942	8 481	82	2 013	2.51	52	66	35	12 154	47	7.29
1963 Census--	5 278	7 179	82	2 000	2.39	51	73	29	11 820	44	7.13

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3211, FLAT GLASS													
United States	-	**62**	**32**	**21.9**	**401.0**	**18.5**	**39.9**	**328.2**	**931.0**	**656.0**	**1 576.6**	**81.1**	**20.9**	**662.1**
Middle Atlantic Division:													
New Jersey	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	7	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East North Central Division:														
Ohio	-	4	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Illinois	-	5	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Michigan	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West North Central Division:														
Missouri	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Atlantic Division:														
Maryland	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West Virginia	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
North Carolina	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West South Central Division:														
Oklahoma	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Texas	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	9	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
INDUSTRY 3221, GLASS CONTAINERS														
United States	-	**126**	**124**	**70.8**	**975.4**	**62.5**	**120.1**	**823.0**	**2 138.9**	**1 495.3**	**3 664.2**	**220.9**	**72.9**	**1 399.7**
New England Division:														
Massachusetts	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Rhode Island	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Connecticut	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Middle Atlantic Division:														
New York	-	6	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Jersey	-	15	14	11.0	150.8	9.5	18.5	124.5	319.7	234.6	560.1	23.6	FF	(D)
Pennsylvania	-	14	14	8.4	109.5	7.6	13.9	94.3	242.1	148.9	393.8	15.9	FF	(D)
East North Central Division:														
Ohio	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Indiana	-	9	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.6	118.7
Illinois	-	12	12	8.2	114.2	7.2	14.1	96.4	232.3	170.0	409.3	15.8	FF	(D)
Michigan	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Wisconsin	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West North Central Division:														
Minnesota	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Atlantic Division:														
Maryland	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West Virginia	-	5	5	3.2	46.9	2.8	5.6	39.8	94.2	57.6	154.1	(D)	4.2	70.0
North Carolina	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Carolina	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Georgia	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Florida	-	4	4	1.8	25.4	1.6	3.2	21.6	54.8	44.2	97.0	9.7	1.7	33.4
East South Central Division:														
Tennessee	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Alabama	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Mississippi	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Arkansas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Louisiana	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Oklahoma	-	6	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Texas	-	5	5	2.3	32.1	2.1	4.0	27.3	78.2	56.8	134.2	4.2	2.2	48.5
Mountain Division:														
Colorado	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Oregon	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California	-	16	16	9.6	135.5	8.6	15.4	114.5	281.4	199.1	491.2	36.7	FF	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3229, PRESSED AND BLOWN GLASS, N.E.C.														
United States	-	**382**	**125**	**46.2**	**572.8**	**38.6**	**74.4**	**445.9**	**1 452.8**	**675.3**	**2 120.1**	**143.6**	**45.9**	**941.4**
New England Division:														
Rhode Island	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Middle Atlantic Division:														
New York	-	30	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Jersey	-	30	10	2.2	29.1	1.7	3.4	22.1	61.0	32.9	91.0	4.2	EE	(D)
Pennsylvania	-	31	16	6.5	79.2	5.6	10.9	63.6	185.0	92.3	275.7	11.3	FF	(D)
East North Central Division:														
Ohio	-	36	20	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Indiana	-	12	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.3	56.6
Illinois	E3	12	3	0.2	1.8	0.1	0.3	1.5	2.8	1.4	4.2	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	9	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West Virginia	-	30	25	6.6	71.6	5.5	10.1	53.8	161.6	66.5	227.0	(D)	6.7	113.4
North Carolina	-	4	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Carolina	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
East South Central Division:														
Kentucky	-	7	6	1.5	20.3	1.1	2.2	14.2	62.5	25.1	87.2	(D)	EE	(D)
Tennessee	-	8	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West South Central Division:														
Arkansas	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Louisiana	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Texas	E1	17	2	0.5	4.9	0.5	0.7	3.5	6.8	11.4	17.4	(D)	(NA)	(NA)
Pacific Division:														
California	E2	52	7	1.1	13.8	1.0	2.0	11.2	36.6	18.2	55.8	1.9	CC	(D)
INDUSTRY 3231, PRODUCTS OF PURCHASED GLASS														
United States	-	**1 101**	**325**	**36.2**	**429.2**	**28.8**	**56.7**	**305.9**	**950.2**	**896.5**	**1 842.4**	**73.4**	**33.7**	**668.9**
New England Division:														
Massachusetts	-	20	4	0.8	8.3	0.4	0.8	4.2	24.4	21.4	43.0	(D)	0.4	11.4
Connecticut	-	20	10	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	10.5
Middle Atlantic Division:														
New York	E1	127	34	3.8	44.2	3.1	6.0	31.3	103.9	68.1	170.2	10.8	3.8	63.9
New Jersey	-	90	37	2.9	31.7	2.4	4.7	23.5	66.5	48.5	115.3	3.7	2.8	47.4
Pennsylvania	-	76	31	5.6	76.6	4.4	8.8	57.9	166.3	142.6	306.1	6.1	5.4	106.0
East North Central Division:														
Ohio	-	69	29	3.3	42.9	2.8	5.5	33.1	108.9	94.6	199.8	4.6	4.2	99.2
Indiana	-	24	7	1.0	10.9	0.8	1.6	8.1	21.1	17.9	38.8	1.0	0.9	13.6
Illinois	E2	58	19	1.6	19.7	1.3	2.4	14.0	36.0	43.6	78.5	3.0	2.7	62.8
Michigan	-	47	17	3.5	50.5	2.6	5.0	34.6	105.6	108.5	212.2	9.7	3.2	85.8
Wisconsin	-	23	5	0.4	4.3	0.3	0.6	2.7	6.4	13.1	19.2	0.2	0.3	5.9
West North Central Division:														
Minnesota	-	15	4	0.7	6.6	0.5	1.1	4.8	15.3	15.0	30.7	0.6	AA	(D)
Iowa	-	7	3	0.4	3.6	0.3	0.6	3.0	12.1	8.4	20.3	(D)	BB	(D)
Missouri	-	18	4	0.2	3.0	0.2	0.4	2.0	11.6	10.9	21.7	(D)	0.2	3.5
South Atlantic Division:														
Virginia	-	12	7	0.8	7.4	0.6	1.2	4.9	15.7	22.5	39.5	0.3	0.9	16.3
West Virginia	-	23	7	1.1	11.0	1.0	2.0	9.2	17.5	21.5	38.9	(D)	0.8	11.2
North Carolina	-	19	8	1.4	13.5	1.2	2.4	8.5	34.7	43.3	77.6	3.1	1.3	24.4
Georgia	E1	17	7	0.5	4.1	0.4	1.2	3.2	14.9	17.7	32.1	0.3	0.3	3.9
Florida	-	34	6	0.3	3.7	0.3	0.5	2.4	8.4	7.0	15.4	0.5	CC	(D)
East South Central Division:														
Tennessee	-	15	5	0.3	3.1	0.2	0.5	2.3	3.1	9.2	15.5	0.9	CC	(D)
Alabama	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Mississippi	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Arkansas	-	8	3	0.2	1.3	0.2	0.3	0.8	3.5	5.4	8.9	(D)	(NA)	(NA)
Texas	E1	39	9	0.7	6.5	0.5	1.0	4.5	15.0	13.9	28.4	1.5	BB	(D)
Mountain Division:														
Colorado	E5	20	2	0.2	1.6	0.1	0.2	1.2	4.7	4.3	8.9	0.1	(NA)	(NA)
Pacific Division:														
Washington	E1	15	1	0.2	2.1	0.1	0.3	1.5	4.9	8.7	13.6	0.2	(NA)	(NA)
California	E1	189	45	3.6	43.8	2.7	5.4	28.7	93.8	91.3	184.4	6.5	EE	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Flat glass (SIC 3211)	Glass containers (SIC 3221)	Pressed and blown glass, n.e.c. (SIC 3229)	Products of purchased glass (SIC 3231)
Primary product specialization ratio[1]	percent	90	99	97	95
Coverage ratio[2]	do	(D)	99	96	(D)
All establishments	number	62	126	382	1 101
With 1 to 19 employees	do	30	2	257	776
With 20 to 99 employees	do	8	7	44	234
With 100 employees or more	do	24	117	81	91
All employees, average for year	1,000	21.9	70.8	46.2	36.2
Payroll for year, all employees	mil. dol.	401.0	975.4	572.8	429.2
Production workers:					
Average for year	1,000	18.5	62.5	38.6	28.8
March	do	17.6	61.3	38.1	27.5
May	do	18.1	62.0	38.7	28.4
August	do	19.2	63.8	38.5	29.2
November	do	19.1	63.1	39.0	30.2
Hours	millions	39.9	120.1	74.4	56.7
January to March	do	9.5	29.4	17.1	13.3
April to June	do	10.1	31.1	19.4	14.1
July to September	do	10.3	30.6	18.8	14.3
October to December	do	10.0	28.9	19.1	15.0
Wages	mil. dol.	328.2	823.0	445.9	305.9
Cost of materials, etc.	do	656.0	1 495.3	675.3	896.5
Materials, parts, containers, etc., consumed	do	486.2	1 117.6	470.8	813.7
Resales	do	33.5	10.9	27.7	29.5
Fuels consumed	do	105.4	250.4	112.8	21.3
Purchased electric energy	do	30.6	110.6	51.6	22.6
Contract work	do	0.3	5.8	12.5	9.3
Value of shipments, including resales	do	1 576.6	3 664.2	2 120.1	1 842.4
Value of resales	do	32.3	12.7	35.8	38.0
Value added by manufacture	do	931.0	2 138.9	1 452.8	960.2
Manufacturers' inventories:					
Beginning of year	do	191.9	429.6	331.2	261.5
Finished products	do	71.4	322.6	197.7	103.9
Work in process	do	49.7	2.2	55.0	60.3
Materials, supplies, fuel, etc.	do	70.8	104.9	78.5	97.3
End of year	do	211.4	408.7	350.7	285.6
Finished products	do	75.6	292.4	206.5	115.8
Work in process	do	55.9	2.3	54.3	62.7
Materials, supplies, fuel, etc.	do	79.9	114.0	89.9	107.2
Capital expenditures for plant and equipment	do	85.3	231.3	147.5	78.9
New capital expenditures	do	81.1	220.9	143.6	73.4
New buildings and other structures	do	11.8	34.3	24.9	23.0
New machinery and equipment	do	69.3	186.7	118.7	50.4
Used capital expenditures	do	4.2	10.3	3.9	5.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Flat glass (SIC 3211)		Glass containers (SIC 3221)		Pressed and blown glass, n.e.c. (SIC 3229)		Products of purchased glass (SIC 3231)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	1.8	4	2.3	1	6.3	2	(1.6)	15
Response coverage ratio[2] (percent)	43	(X)	61	(X)	66	(X)	63	(X)
Machinery	1.8	4	[3]2.3	1	21.8	2	9.6	12
Response coverage ratio[2] (percent)	43	(X)	62	(X)	70	(X)	59	(X)
Cost of purchased communication services	1.0	12	5.4	1	3.4	2	(5.8)	24
Response coverage ratio[2] (percent)	78	(X)	39	(X)	79	(X)	57	(X)
Rental payments	4.3	1	15.6	2	10.8	4	19.6	7
Buildings and other structures	1.5	1	8.5	2	5.4	8	9.8	11
Machinery and equipment	2.7	1	7.1	2	5.4	2	9.8	6
Supplemental labor costs	109.9	1	263.2	1	126.4	1	91.4	1
Legal costs	29.7	1	95.8	3	45.7	1	38.2	5
Voluntary costs	80.2	1	167.4	2	80.8	1	53.2	3
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	331.4	1	465.8	1	312.7	1	130.3	11
New capital expenditures	11.7	1	34.1	2	25.8	3	23.5	11
Used capital expenditures	0.3	1	2.1	1	(0.4)	33	1.6	1
Retirements	1.0	4	1.1	7	5.1	2	(2.7)	23
End of year	342.4	1	500.8	1	333.8	1	152.7	1
Machinery and equipment:								
Beginning of year	960.5	1	1,310.6	1	940.9	2	342.6	5
New capital expenditures	69.4	1	186.0	1	127.0	5	52.0	8
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(1.0)	(A)	(0.7)	(A)	(1.4)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(0.6)	(A)	(18.0)	(A)	(0.7)	(A)
All other[3]	(63.3)	32	183.1	1	(89.5)	22	(37.0)	77
New machinery and equipment, n.s.k.[4]	(4.9)	(A)	(1.3)	(A)	(18.9)	(A)	(12.9)	83
Used capital expenditures	3.9	1	8.2	1	3.6	1	(3.4)	30
Retirements	9.2	2	50.4	1	35.9	1	12.4	8
End of year	1,024.7	1	1,454.3	1	1,035.6	1	385.6	5
Total gross value of depreciable assets:								
Beginning of year	1,291.9	1	1,776.3	1	1,253.7	1	472.9	4
New capital expenditures	81.2	1	220.0	1	152.8	5	75.5	8
Used capital expenditures	4.2	1	10.3	1	4.0	4	(5.0)	21
Retirements	10.2	1	51.6	1	41.1	1	15.1	9
End of year	1,367.0	1	1,955.1	1	1,369.4	1	538.3	3
Depreciation charges during 1977	78.1	1	128.8	1	83.1	1	30.4	2
Buildings and other structures	8.6	1	15.6	1	13.4	1	5.5	2
Machinery and equipment	69.5	1	113.3	1	69.7	1	24.9	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3211, FLAT GLASS												
Total	-	**62**	**21.9**	**401.0**	**18.5**	**39.9**	**328.2**	**931.0**	**656.0**	**1 576.6**	**81.1**	**211.4**
Establishments with an average of—												
1 to 4 employees	E3	19	(Z)	0.5	(Z)	0.1	0.4	0.5	1.3	2.7	0.1	0.3
5 to 9 employees	E4	7	(Z)	0.6	(Z)	0.1	0.5	1.6	1.0	2.5	0.1	0.3
10 to 19 employees	E2	4	0.1	0.7	(Z)	0.1	0.5	1.6	1.0	2.6	0.1	0.3
20 to 49 employees	-	5	0.2	2.0	0.1	0.3	1.5	3.3	2.3	5.5	(56.4)	0.8
50 to 99 employees	-	3	(3.4)	(50.9)	(2.7)	(5.6)	(38.9)	(93.0)	(86.0)	(180.8)	(D)	(29.1)
100 to 249 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	8	5.7	91.2	4.7	10.1	71.5	292.2	177.4	468.0	(24.4)	63.8
1,000 to 2,499 employees	-	6	(12.5)	(255.1)	(10.8)	(23.7)	(215.0)	(538.9)	(387.1)	(914.5)	(D)	(116.6)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 3221, GLASS CONTAINERS												
Total	-	**126**	**70.8**	**975.4**	**62.5**	**120.1**	**823.0**	**2 138.9**	**1 495.3**	**3 664.2**	**220.9**	**408.7**
Establishments with an average of—												
1 to 4 employees	E0	2	(0.1)	(1.5)	(0.1)	(0.2)	(0.8)	(2.7)	(2.8)	(6.9)	(4.5)	(1.2)
20 to 49 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	3	0.2	2.8	0.2	0.5	2.3	4.6	3.9	8.3	(D)	1.1
100 to 249 employees	-	15	3.1	42.3	2.7	5.5	35.2	101.8	79.9	178.7	41.3	26.2
250 to 499 employees	-	45	16.1	222.8	14.2	28.3	186.9	539.1	387.1	934.1	39.8	106.6
500 to 999 employees	-	44	32.1	436.9	28.5	53.8	369.3	966.2	703.0	1 679.4	(135.3)	189.3
1,000 to 2,499 employees	-	12	(19.2)	(269.0)	(16.8)	(31.8)	(228.5)	(524.4)	(318.4)	(856.7)	(D)	(84.3)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 3229, PRESSED AND BLOWN GLASS, N.E.C.												
Total	-	**382**	**46.2**	**572.8**	**38.6**	**74.4**	**445.9**	**1 452.8**	**675.3**	**2 120.1**	**143.6**	**350.7**
Establishments with an average of—												
1 to 4 employees	E7	175	0.3	3.1	0.3	0.4	2.4	7.7	3.3	12.8	0.6	1.8
5 to 9 employees	E8	48	0.3	3.5	0.3	0.5	2.7	8.9	4.0	13.3	0.5	2.2
10 to 19 employees	E6	34	0.4	5.0	0.4	0.7	3.7	12.0	5.5	17.4	0.7	2.9
20 to 49 employees	E2	25	0.8	8.0	0.7	1.3	6.2	16.2	9.5	26.0	0.7	3.3
50 to 99 employees	-	19	1.4	16.2	1.1	2.1	11.7	37.9	21.4	58.9	2.2	6.2
100 to 249 employees	-	31	4.8	57.0	4.0	7.6	43.1	123.7	75.9	198.8	16.2	24.8
250 to 499 employees	-	17	6.3	74.7	5.2	9.8	55.1	187.3	84.6	268.1	40.9	42.0
500 to 999 employees	-	23	15.7	204.5	13.3	26.4	161.6	595.5	246.0	843.2	37.7	128.2
1,000 to 2,499 employees	-	9	(16.1)	(200.8)	(13.4)	(25.6)	(159.4)	(463.6)	(225.0)	(681.7)	(44.0)	(139.3)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	218	0.8	9.7	0.8	1.4	7.6	22.9	10.4	33.3	1.4	5.7
INDUSTRY 3231, PRODUCTS OF PURCHASED GLASS												
Total	-	**1 101**	**36.2**	**429.2**	**28.8**	**56.7**	**305.9**	**960.2**	**896.5**	**1 842.4**	**73.4**	**285.6**
Establishments with an average of—												
1 to 4 employees	E8	480	0.7	8.5	0.7	1.1	5.9	14.8	16.4	34.3	0.7	5.5
5 to 9 employees	E4	163	1.1	13.7	0.8	1.7	9.6	27.8	25.3	52.9	1.2	8.4
10 to 19 employees	E1	133	1.9	20.4	1.5	2.8	14.0	46.8	42.1	88.4	3.5	13.0
20 to 49 employees	E1	155	4.8	55.4	3.8	7.3	37.8	118.3	117.4	232.7	9.4	32.8
50 to 99 employees	-	79	5.4	53.5	4.5	8.6	38.3	114.5	121.6	234.4	9.3	31.5
100 to 249 employees	-	63	9.5	104.4	7.6	15.3	72.0	240.6	238.4	472.1	27.9	66.3
250 to 499 employees	-	19	6.4	77.4	5.1	10.1	56.7	163.5	145.3	309.1	13.8	50.8
500 to 999 employees	-	8	(6.4)	(95.9)	(4.8)	(9.8)	(71.8)	(234.0)	(189.9)	(418.4)	(7.6)	(77.2)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	492	1.2	14.6	1.1	1.9	10.1	29.9	28.8	58.7	1.1	9.6

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3211	**Flat glass:**										
	Entire industry	62	21.9	401.0	18.5	39.9	328.2	931.0	656.0	1 576.6	81.1
	Establishments with 75 percent specialization or more	56	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32113	Laminated glass:										
	Establishments with this product class primary	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32114	Other flat glass:										
	Establishments with this product class primary	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32115	Sheet, plate, and float glass:										
	Establishments with this product class primary	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3221	**Glass containers:**										
	Entire industry	126	70.8	975.4	62.5	120.1	823.0	2 138.9	1 495.3	3 664.2	220.9
	Establishments with 75 percent specialization or more	123	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3229	**Pressed and blown glass, n.e.c.:**										
	Entire industry	382	46.2	572.8	38.6	74.4	445.9	1 452.8	675.3	2 120.1	143.6
	Establishments with 75 percent specialization or more	368	44.9	555.3	37.6	72.4	432.8	1 396.9	647.2	2 036.2	(D)
32291	Table, kitchen, art, and novelty glassware:										
	Establishments with this product class primary	41	19.6	235.7	16.2	30.9	184.3	577.7	231.7	806.1	33.5
	Establishments with 75 percent specialization or more in class	37	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32292	Lighting and electronic glassware:										
	Establishments with this product class primary	45	10.5	137.0	8.8	17.2	105.1	329.0	162.9	488.5	18.9
	Establishments with 75 percent specialization or more in class	44	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32293	Glass fiber, textile type:										
	Establishments with this product class primary	15	9.6	117.0	8.3	16.1	95.2	336.3	193.3	528.7	75.1
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32294	Other pressed and blown glassware:										
	Establishments with this product class primary	26	5.3	69.0	4.2	8.1	50.2	178.2	72.2	248.1	14.0
	Establishments with 75 percent specialization or more in class	22	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3231	**Products of purchased glass:**										
	Entire industry	1 101	36.2	429.2	28.8	56.7	305.9	960.2	896.5	1 842.4	73.4
	Establishments with 75 percent specialization or more	1 065	34.3	409.1	27.3	53.9	292.7	923.2	852.1	1 759.1	70.9
32313	Laminated glass:										
	Establishments with this product class primary	23	4.9	70.4	3.9	8.0	53.0	164.5	163.7	325.7	7.8
	Establishments with 75 percent specialization or more in class	20	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32315	Mirrors:										
	Establishments with this product class primary	63	6.8	73.0	5.3	10.3	47.0	147.9	189.9	334.3	15.9
	Establishments with 75 percent specialization or more in class	51	4.9	54.2	3.8	7.6	34.3	109.0	145.8	251.4	(D)
32317	Pressed and blown glassware:										
	Establishments with this product class primary	96	7.5	82.1	5.9	11.4	59.1	193.2	112.9	300.5	10.2
	Establishments with 75 percent specialization or more in class	88	6.8	75.0	5.4	10.4	54.1	179.4	104.4	278.5	(D)
32318	Other glass products, made of purchased glass:										
	Establishments with this product class primary	221	13.0	157.0	10.5	20.9	114.4	359.2	338.1	692.4	31.8
	Establishments with 75 percent specialization or more in class	201	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3211	Flat glass.....1977..	1,576.6	(D)	(D)	34.2	[1]90	[2]1,817.6	(D)	(D)	(D)
	1972..	937.2	(D)	(D)	17.5	[1]85	[2]1,247.1	(D)	(D)	(D)
	1967..	611.3	(D)	(D)	10.3	[1]85	[2]810.9	(D)	(D)	(D)
3221	Glass containers.....1977..	3,664.2	3,611.1	32.6	20.4	99	3,618.0	3,611.1	6.9	99
	1972..	2,126.5	2,079.9	22.7	23.9	99	2,085.2	2,079.9	5.3	99
	1967..	1,352.4	1,327.0	6.1	19.3	99	1,331.0	1,327.0	4.0	99
3229	Pressed and blown glass, n.e.c.....1977..	2,120.1	2,009.5	71.7	38.8	97	2,100.7	2,009.5	96.1	96
	1972..	1,267.3	1,214.7	44.1	8.5	97	1,262.5	1,214.7	47.8	96
	1967..	886.2	859.1	24.2	2.9	97	880.4	859.1	21.3	98
3231	Products of purchased glass.....1977..	1,842.4	(D)	(D)	45.2	[1]95	[2]2,350.4	(D)	(D)	(D)
	1972..	1,327.6	(D)	(D)	95.8	[1]90	[2]1,511.5	(D)	(D)	(D)
	1967..	797.7	(D)	(D)	55.2	[1]90	[2]929.2	(D)	(D)	(D)

(D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.

[1]Minimum percentage; exact percentage not shown to avoid disclosing operations of individual companies.

[2]Includes laminated glass (product classes 32113 and 32313) which is primary to industry 3211 when made by primary glass producers, and industry 3231 when made from purchased glass. Separate totals have been withheld to avoid disclosing operations of individual companies.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Flat glass (SIC 3211)	Glass containers (SIC 3221)	Pressed and blown glass, n.e.c. (SIC 3229)	Products of purchased glass (SIC 3231)	Other industries
	Total	(X)	1,576.6	3,664.2	2,120.1	1,842.4	(X)
	Primary products	(X)	(D)	3,611.1	2,009.5	(D)	(X)
	Secondary products	(X)	(D)	32.6	71.7	(D)	(X)
	Miscellaneous receipts	(X)	34.2	20.4	38.8	45.2	(X)
3211-	Flat glass	[1]1,817.6	(D)	-	(D)	(D)	(D)
32113	Laminated glass	[1]707.2	(D)	-	-	(D)	(D)
32114	Other flat glass	360.6	(D)	-	(D)	-	-
32115	Sheet, plate, and float glass	742.8	742.5	-	(D)	-	(D)
32110	Flat glass, n.s.k	7.0	6.5	-	-	-	.5
32210	Glass containers	3,618.0	-	3,611.1	(D)	-	(D)
3229-	Pressed and blown glass, n.e.c	2,100.7	-	(D)	2,009.5	(D)	72.5
32291	Table, kitchen, art, and novelty glassware	743.0	-	(D)	726.0	-	(D)
32292	Lighting and electronic glassware	526.8	-	-	519.5	-	7.3
32293	Glass fiber, textile type	514.0	-	-	472.7	-	41.3
32294	Other pressed and blown glassware	266.9	-	-	242.4	(D)	(D)
32290	Pressed and blown glass, n.e.c., n.s.k	50.0	-	-	48.9	-	11.0
3231-	Products of purchased glass	[2]2,350.4	(D)	(D)	(D)	(D)	(D)
32313	Laminated glass	[1]707.2	(D)	-	-	(D)	(D)
32315	Mirrors	409.4	-	-	-	291.6	117.8
32317	Pressed and blown glassware	298.1	-	(D)	(D)	282.7	(D)
32318	Other glass products, made of purchased glass	758.1	(D)	-	(D)	688.3	27.0
32310	Products of purchased glass, n.s.k	177.6	-	-	-	175.8	1.8
	Other shipments by 4-digit product group:						
2653-	Corrugated and solid fiber boxes	(X)	-	(D)	-	-	(X)
2821-	Plastics materials and resins	(X)	-	-	(D)	-	(X)
3079-	Miscellaneous plastics products	(X)	-	-	(D)	16.3	(X)
3264-	Porcelain electrical supplies	(X)	-	-	-	(D)	(X)
3296-	Mineral wool	(X)	-	-	(D)	-	(X)
3442-	Metal doors, sash, and trim	(X)	-	-	-	2.7	(X)
3499-	Fabricated metal products, n.e.c	(X)	-	-	-	(D)	(X)
3564-	Blowers and fans	(X)	-	-	(D)	-	(X)
3612-	Transformers	(X)	-	-	(D)	-	(X)
3647-	Vehicular lighting equipment	(X)	-	-	-	(D)	(X)
	Miscellaneous receipts:						
93000 00	Contract work	(X)	(Z)	(Z)	-	2.4	(X)
99980 98	Other miscellaneous receipts	(X)	1.9	7.7	3.0	4.8	(X)
99989 00	Resales	(X)	32.3	12.7	35.8	38.0	(X)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
3229-	3296 Mineral wool	(D)	3231-	2514 Metal household furniture	(D)
3231-	2499 Wood products, n.e.c	5.4		3647 Vehicular lighting equipment	(D)
	2511 Wood household furniture	65.4		3714 Motor vehicle parts and accessories	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Includes laminated glass (product classes 32113 and 32313) which is primary to industry 3211 when made by primary producers, and industry 3231 when made from purchased glass. Separate totals withheld to avoid disclosing operations of individual companies.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[2]	Value (million dollars)		Quantity	Value (million dollars)
	FLAT GLASS								
3211- --	Total[3]		(NA)	(X)	(X)	1,817.6	(X)	(X)	1,247.1
32115 --	Sheet (window), plate, and float glass:								
	As reported in census of manufactures		10	(X)	(X)	742.8	(X)	(X)	519.1
	As reported in Current Industrial Reports MQ-32A, Flat Glass		(NA)	(X)	(X)	[4]739.9	(X)	(X)	[5]544.9
32115 11	Sheet, plate, and float glass: Up to and including .084 inch	Mil. sq. ft.	(NA)	26.8	26.6	6.1			
32115 12	.085 inch through .107 inch		(NA)	1,741.7	1,700.8	275.8			
32115 13	.108 inch through .134 inch		(NA)	666.7	660.3	132.8			
32115 14	.135 inch through .199 inch		(NA)	684.5	699.6	144.8	(X)	(X)	(NA)
32115 15	.200 inch through .244 inch		(NA)	460.0	475.8	144.2			
32115 16	Over .244 inch	Mil. sq. ft.	(NA)	103.8	104.1	[4]36.2			
32113 -- 32313 --	Laminated glass		(NA)	(X)	(X)	707.2	(X)	(NA)	534.4
32113 11 32313 11	Laminated plate and float, 1/4 inch and under	Mil. sq. ft.	19	(X)	547.6	590.7	(X)	306.7	515.4
32113 31 32313 31	Laminated plate and float, over 1/4 inch		14	(X)	17.8	17.6			
32113 51 32313 51	Laminated sheet (window)		10	(X)	22.9	19.4	(X)	15.2	19.0
32113 71 32313 98	Other laminated glass	Mil. sq. ft.	11	(X)	49.7	78.6			
32113 00 32313 00	Laminated glass, n.s.k.		(NA)	(X)	(X)	.9	(X)	(X)	-
32114 --	Other flat glass, made from glass produced in same establishment		(NA)	(X)	(X)	360.6	(X)	(X)	193.6
32114 11	Rolled and wire glass		4	(X)	(D)	([3])	(X)	(X)	(D)
32114 21	Tempered glass for automotive use	Mil. sq. ft.	4	(X)	381.0	314.8	(X)	208.3	163.0
32114 23	Tempered glass for architectural and construction purposes, including glass for shower and entrance doors		5						
32114 29	Tempered glass for other uses, such as appliances		-	(X)	-	-			
32114 98	Other flat glass (plate glass blanks, bent or enameled sheet, plate, float, and rolled glass; glass doors and tub enclosures (other than tempered); multiple-glazed, sealed insulating units; etc.)	Mil. sq. ft.	10	(X)	(S)	[5]45.8	(X)	(X)	(D)
32114 00	Other flat glass, n.s.k.		(NA)	(X)	(X)	-	(X)	(X)	(X)
32110 00	Flat glass, n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	(X)	7.0	(X)	(X)	
	GLASS CONTAINERS								
3221- --	As reported in the census of manufactures		29	(X)	(X)	3,618.0	(X)	(X)	2,085.2
	As reported in Current Industrial Reports M32G, Glass Containers		(X)	303.2	307.2	3,606.0	268.4	267.7	2,077.7
32210 --	Glass containers, domestic:[6] Narrow neck:								
32210 11	Food	Mil. gross	(X)	22.4	23.9	[r]380.3	52.1	24.3	232.6
32210 13	Medicinal and health		(X)	14.4	15.1	170.4		16.7	119.9
32210 15	Chemical, household, and industrial		(X)	2.0	2.4	32.1		3.2	24.9
32210 17	Toiletries and cosmetics	Mil. gross	(X)	11.6	11.0	115.5		7.5	55.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity	Product shipments[1] Value (million dollars)	Quantity of production for all purposes	Product shipments Quantity	Product shipments Value (million dollars)
	GLASS CONTAINERS--Con.								
	Glass containers, domestic[6]--Con.								
	Narrow neck--Con.								
	Beverage:								
32210 19	Returnable	Mil. gross	(X)	7.8	7.2	160.5	10.7	10.1	136.4
32210 50	Nonreturnable		(X)	62.5	60.3	813.4	61.2	61.0	464.5
32210 51	Under 10 ounce		(X)		2.1				
32210 52	10 to 11 ounce		(X)		22.8				
32210 53	12 to 15 ounce		(X)						
32210 54	16 ounce		(X)	62.5	18.1	813.4	61.2	61.0	464.5
32210 55	17 to 32 ounce		(X)		9.6				
32210 56	33 to 48 ounce		(X)		7.8				
32210 57	49 ounce and over		(X)						
	Beer:								
32210 23	Returnable		(X)	3.4	3.5	35.6	2.9	2.8	17.9
32210 60	Nonreturnable		(X)	88.7	89.3	647.6	51.9	52.7	267.7
32210 61	Under 11 ounce		(X)		20.7				
32210 62	11 ounce		(X)		63.1				
32210 63	12 to 15 ounce		(X)	88.7		647.6	51.9	52.7	267.7
32210 65	16 to 31 ounce		(X)		5.4				
32210 66	32 ounce and over		(X)						
32210 27	Liquor		(X)	15.8	15.9	291.2	14.2	13.9	162.7
32210 29	Wine		(X)	8.7	8.6	202.6	8.5	8.6	120.7
	Wide mouth:								
32210 31	Food, including packers' tumblers, fruit jars, and jelly glasses		(X)	60.5	61.7	659.9	66.9	58.2	403.3
32210 37	Dairy products		(X)					.2	4.7
32210 32	Medicinal and health		(X)	2.5	2.5	24.8		3.9	25.7
32210 33	Chemical, household, and industrial		(X)	1.3	1.3	19.0		1.1	10.6
32210 34	Toiletries and cosmetics		(X)	1.6	1.5	17.3		1.7	15.8
32210 62	Export shipments (all types of machine-made glass containers)	Mil. gross	(X)	(X)	3.1	35.9	(X)	1.8	15.3

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1] Quantity	Product shipments[1] Value (million dollars)	Product shipments Quantity	Product shipments Value (million dollars)
	PRESSED AND BLOWN GLASS, N.E.C.						
3229- --	Total		(NA)	(X)	[7]2,100.7	(X)	1,262.4
32291 --	Table, kitchen, art, and novelty glassware, made from glass produced in the same establishment		33	(X)	743.0	(X)	432.9
32292 --	Lighting and electronic glassware, made from glass produced in the same establishment		35	(X)	526.8	(X)	394.6
32294 --	Other pressed and blown glassware, made from glass produced in the same establishment		30	(X)	266.9	(X)	166.6
32291 -- 32292 -- 32294 -- 32317 --	Consumer, scientific, technical, and industrial glassware:						
	As reported in census of manufactures		(NA)	(X)	1,834.8	(X)	994.1
	As reported in Current Industrial Reports MA-32E, Consumer, Scientific, Technical, and Industrial glassware		(NA)	(X)	1,831.2	(X)	1,003.0
	Machine-made:						
32291 21	Tumblers (one-piece, excluding packers' tumblers)	Mil. dozens	(NA)	72.8	173.6	81.1	119.3
32291 22	Stemware	Mil. dozens	(NA)	18.1	71.8	(D)	(D)
32291 23	Tableware	Mil. pieces	(NA)	505.0	355.6	425.1	174.9
32291 25	Cookware, ovenware, and kitchenware	Mil. pieces	(NA)				
32291 28	Ornamental, decorative, and novelty glassware and smokers' accessories		(NA)	(X)	85.6	(X)	39.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	PRESSED AND BLOWN GLASS, N.E.C.--Con.						
	Consumer, scientific, technical, and industrial glassware--Con.						
	As reported in Current Industrial Reports MA-32E, Consumer, Scientific, Technical, and Industrial glassware--Con.						
	Hand-made:						
32291 31	Tumblers	Mil. pieces	(NA)	2.2	3.6	(D)	(D)
32291 32	Stemware	Mil. dozens	(NA)	2.0	24.2	2.0	17.5
32291 33	Tableware	Mil. pieces	(NA)	6.1	15.2	(D)	(D)
32291 38	Other, including ornamental, decorative, and novelty glassware, and smokers' accessories						
32291 99	Interplant transfers and shipments to other glassware establishments of partially fabricated table, kitchen, art, and novelty glassware		(NA)	(X)	55.3	(X)	(D)
32292 21	Automotive lighting glassware		(NA)	(X)	(D)	(X)	(D)
32292 23	Searchlight and other lenses		(NA)	(X)	6.3	(X)	(D)
32292 25	Electric light bulb blanks		(NA)	(X)	(8)	(D)	(D)
32292 27	Tubing and cane for electric light bulbs and flourescent and neon lighting		(NA)	(X)	56.6	(X)	(D)
32292 31	Electronic tube blanks	Millions	(NA)	(D)	(D)	(X)	39.2
32292 35	Television tube blanks and parts; tubing, cane, and glass parts for electronic tubes and devices		(NA)	(X)	[8]311.1	(X)	(D)
	Bowls and enclosing globes, lamp chimneys, lamp parts, shades, reflectors, torchiers, and other interior and exterior lighting:						
32292 37	Interior		(NA)	(X)	67.4	(X)	45.5
32292 39	Exterior		(NA)	(X)	9.8	(X)	6.3
32292 99	Interplant transfers and shipments to other glassware establishments of partially fabricated lighting and electronic glassware		(NA)	(X)	28.5	(X)	(D)
32294 21	Tubing, rod, and canes, all types, except electrical and electronic		(NA)	(X)	16.9	(X)	(D)
32294 23	Scientific and laboratory glassware		(NA)	(X)	151.7	(X)	45.8
32294 25	Industrial and technical glassware		(NA)	(X)	143.5	(X)	35.6
32294 27	Ophthalmic lens blanks and optical instrument lens blanks					(X)	(D)
32294 29	Other glassware						
32294 99	Interplant transfers and shipments to other glassware establishments of partially fabricated glassware, except table, kitchen, art, novelty, lighting, or electronic		(NA)	(X)	98.6	(X)	38.9
32291 00 32292 00 32294 00 32317 00	Consumer, scientific, technical, and industrial glassware, n.s.k.		(NA)	(X)	92.5	(X)	(NA)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity	Value (million dollars)		Quantity	Value (million dollars)
	PRESSED AND BLOWN GLASS, N.E.C.--Con.								
32293 --	Glass fiber--textile type fiber:								
	As reported in census of manufactures		13	(X)	(X)	514.0	(X)	(X)	253.5
	As reported in Current Industrial Reports MA-32J, Fibrous Glass	Million lb.	(X)	(X)	(X)	507.6	576.9	575.5	256.9
32293 23	Roving chopped strand and milled fiber	Million lb.	(NA)	460.4	463.3	227.7	576.9	575.5	256.9
32293 21	Yarn, strand, staple yarn, and silver	Million lb.	(NA)	356.5	359.3	279.9			
32293 25	Mat	Million lb.							
32293 29	Other textile type fiber	Million lb.							
32290 00	Pressed and blown glass, n.e.c., n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	(X)	16.7	(X)	(X)	8.0
32290 02	Pressed and blown glass, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	(X)	33.3	(X)	(X)	6.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	PRODUCTS OF PURCHASED GLASS						
3231- --	Total[9]	.....	(NA)	(X)	1,643.3	(X)	977.1
32315 --	Mirrors	Mil. sq. ft.	(NA)	(X)	409.4	(X)	254.5
	Framed mirrors (decorated or undecorated):						
32315 11	Plate and float glass		61	*132.3	114.4	(S)	65.3
32315 51	Other glass		19	(S)	31.7	20.4	17.8
	Unframed mirrors (decorated or undecorated):						
32315 61	Plate and float glass		31	*145.4	107.3	66.1	55.9
32315 63	Other glass	Mil. sq. ft.	14	(S)	36.7	72.6	36.7
32315 71	Automotive rearview mirrors	.....	20	(X)	106.8	(X)	66.0
32315 00	Mirrors, n.s.k.	.....	(NA)	(X)	12.5	(X)	12.8
32317 --	Pressed and blown glassware, made from glass purchased or transferred from other establishments	.....	91	(X)	298.1	(X)	200.7
32317 00	Pressed and blown glassware, including table, kitchen, art, and novelty glassware, handmade and machine-made; lighting and electronic glassware; and scientific, laboratory, industrial, or technical glassware	.....	91	(X)	298.1	(X)	200.7
32318 --	Other glass products, made from glass purchased or transferred from other establishments	.....	(NA)	(X)	758.1	(X)	425.1
32318 21	Stained, leaded, and faceted glass and colored glass slabs	Mil. sq. ft.	26	(S)	14.9	(S)	4.8
32318 71	Multiple-glazed, sealed insulating glass units	.....	39	(X)	133.6	(X)	78.5
32318 81	Tempered glass for automotive use	Mil. sq. ft.	18	242.9	230.3	240.9	153.6
32318 83	Tempered glass for architectural and construction purposes, including glass for shower and entrance doors		33	123.5	117.0	(S)	(S)
32318 89	Tempered glass for other uses, such as appliances	Mil. sq. ft.	22	**48.2	58.4	(S)	(S)
32318 98	Other flat glass products, excluding laminated glass, tempered glass, and mirrors, but including such items as bent (except when made into tableware) or enameled, sheet, plate, float, and rolled glass; shower doors and tub enclosures (except tempered); and watch crystals	.....	94	(X)	190.6	(X)	84.7
32318 00	Other glass products made from purchased glass, n.s.k.	.....	(NA)	(X)	13.4	(X)	9.4
32310 00	Products made of purchased glass, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	118.9	(X)	64.0
32310 02	Products made of purchased glass, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	58.7	(X)	32.8

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1] Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2] For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3] Includes laminated glass made by primary producers (3211) as well as laminated glass made from purchased glass (3231). Separate totals are withheld to avoid disclosing operations of individual companies.

[4] Data reported in CIR MQ-32A Flat Glass, include rolled and wire glass.

[5] For 1977, product code 32114 11 was included with product code 32114 98.

[6] Includes production for export as well as domestic use.

[7] Total shipments primary to industry 3229 are calculated by summing 32291 --, 32292 --, 32293 --, 32294 --, 32290 00, and 32290 02.

[8] For 1977, product code 32292 25 is included with product code 32292 35.

[9] Excludes product class 32313, Laminated Glass, which was included in Industry 3211, Flat Glass, to avoid disclosing operations of individual companies.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
32114, OTHER FLAT GLASS		
United States	360.6	193.6
Pacific Division:		
California	37.7	FF
32291, TABLE, KITCHEN, ART, AND NOVELTY GLASSWARE		
United States	743.0	432.9
Middle Atlantic Division:		
Pennsylvania	100.2	53.2
East North Central Division:		
Ohio	251.4	GG
South Atlantic Division:		
West Virginia	154.7	GG
32292, LIGHTING AND ELECTRONIC GLASSWARE		
United States	526.8	394.6
Middle Atlantic Division:		
Pennsylvania	114.3	108.4
East North Central Division:		
Ohio	195.6	122.4
South Atlantic Division:		
West Virginia	22.5	EE
East South Central Division:		
Kentucky	41.4	FF
32293, GLASS FIBER, TEXTILE TYPE		
United States	514.0	253.5
East North Central Division:		
Ohio	44.0	FF
32294, OTHER PRESSED AND BLOWN GLASSWARE		
United States	266.9	166.6
Middle Atlantic Division:		
New Jersey	66.8	GG
Pennsylvania	25.9	14.0
East North Central Division:		
Ohio	16.5	13.2
South Atlantic Division:		
West Virginia	47.6	23.1
32313, LAMINATED GLASS		
United States	(D)	(D)
East North Central Division:		
Michigan	178.6	127.5
32315, MIRRORS		
United States	409.4	254.4
New England Division:		
Connecticut	9.5	12.7
Middle Atlantic Division:		
New York	50.4	30.9
New Jersey	3.8	BB
32315, MIRRORS--Con.		
East North Central Division:		
Ohio	22.8	14.0
Indiana	30.5	18.0
Illinois	14.1	10.8
Michigan	34.8	EE
South Atlantic Division:		
Virginia	38.4	25.0
North Carolina	77.7	47.0
East South Central Division:		
Tennessee	5.6	EE
West South Central Division:		
Arkansas	10.7	4.5
Pacific Division:		
California	40.1	18.7
32317, PRESSED AND BLOWN GLASSWARE		
United States	298.1	(NA)
New England Division:		
Connecticut	5.9	(NA)
Middle Atlantic Division:		
New York	69.0	(NA)
New Jersey	56.5	(NA)
Pennsylvania	32.7	(NA)
East North Central Division:		
Illinois	8.4	(NA)
Michigan	2.7	(NA)
South Atlantic Division:		
West Virginia	23.0	(NA)
West South Central Division:		
Texas	8.9	(NA)
Pacific Division:		
California	22.4	(NA)
32318, OTHER GLASS PRODUCTS, MADE OF PURCHASED GLASS		
United States	758.1	(NA)
Middle Atlantic Division:		
New York	21.5	(NA)
New Jersey	31.6	(NA)
Pennsylvania	118.8	(NA)
East North Central Division:		
Ohio	142.1	(NA)
Indiana	19.0	(NA)
Illinois	37.4	(NA)
Michigan	42.3	(NA)
Wisconsin	5.4	(NA)
West North Central Division:		
Minnesota	23.7	(NA)
Iowa	19.9	(NA)
South Atlantic Division:		
North Carolina	17.0	(NA)
Georgia	16.0	(NA)
Florida	10.9	(NA)
East South Central Division:		
Tennessee	47.5	(NA)
Alabama	2.5	(NA)
Pacific Division:		
California	78.1	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3211-32313	Flat glass[2]	1,817.6	1,629.4	1,286.3	1,302.3	1,409.5	1,247.1	810.9	733.1
32113-32313	Laminated glass[2]	707.2	713.9	574.4	527.0	593.2	534.4	361.7	317.3
32114	Other flat glass	360.6	304.1	255.8	250.7	250.9	193.6	130.2	(NA)
32115	Sheet, plate, and float glass	742.8	609.9	453.8	522.6	563.0	519.1	316.5	(NA)
32110	Flat glass, n.s.k.	7.0	1.5	(2.3)	(2.0)	2.4	-	2.6	-
32210	Glass containers	3,618.0	3,278.6	3,000.1	2,494.3	2,251.0	2,085.2	1,331.0	982.4
3229-	Pressed and blown glass, n.e.c.	2,100.7	1,846.3	1,529.0	1,444.0	1,422.6	1,262.4	880.4	615.1
32291	Table, kitchen, art, and novelty glassware	743.0	693.8	610.4	517.1	460.2	432.9	266.9	220.3
32292	Lighting and electronic glassware	526.8	470.3	367.9	380.2	443.6	394.6	328.9	210.3
32293	Glass fiber, textile type	514.0	418.4	323.2	312.3	308.8	253.5	138.1	91.6
32294	Other pressed and blown glassware	266.9	244.8	213.5	220.3	189.6	166.6	137.5	92.5
32290	Pressed and blown glass, n.e.c., n.s.k.	50.0	(19.0)	(14.0)	(14.1)	(20.4)	14.8	9.0	(.4)
3231-	Products of purchased glass[3]	1,643.3	1,332.3	1,032.4	1,101.3	1,120.3	977.1	567.7	412.0
32313	Laminated glass	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
32315	Mirrors	409.4	(390.9)	(305.1)	276.4	259.4	254.5	160.0	123.4
32317	Pressed and blown glassware	298.1	866.5	678.8	783.2	751.7	625.8	352.1	275.2
32318	Other glass products, made of purchased glass	758.1							
32310	Products of purchased glass, n.s.k.	177.6	(S)	(48.5)	(41.7)	109.2	96.8	55.3	13.4

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Includes laminated glass made by primary producers (3211) as well as laminated glass made from purchased glass (3231). Separate totals are withheld to avoid disclosing operations of individual companies.

[3]Data for 32313 have been combined with 32113, shown as part of 3211, and excluded from 3231. Separate totals are withheld to avoid disclosing operations of individual companies.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3211, FLAT GLASS					
	Materials, parts, containers, and supplies	.....	(X)	486.2	(X)	220.7
144611	Glass sand, all types	1,000 s. tons..	2,153.3	24.1	1,952.1	13.9
281228	Sodium carbonate (soda ash) (98-100% Na_2CO_3)		622.9	52.7	540.8	22.7
281976	Sodium sulfate, including salt cake	1,000 s. tons..	33.5	2.4	65.8	2.4
281901	Industrial inorganic chemicals, except sodium carbonate and sodium sulfate	.....	(X)	9.0	(X)	(2)
321121	Plate and float glass	1,000 sq. ft...	558.4	141.1	182.0	53.8
321111	Sheet glass	1,000 sq. ft...	(D)	(D)	(D)	(D)
322911	Glass tumblers, stemware, and tableware	.....	-	-	(X)	(2)
322901	Other glass products	.....	(X)	(D)	(X)	(2)
325501	Refractories, clay	1,000 s. tons..	(D)	(D)	(D)	(D)
329701	Refractories, nonclay	1,000 s. tons..				
329511	Nonmetallic minerals and earths, ground or otherwise treated	.....	(X)	8.5	(X)	(2)
265001	Paperboard boxes and containers, including corrugated boxes	.....	(X)	24.1	(X)	(2)
999816	Cullet (glass scrap)	Million lb.....	1,011.1	21.8	824.9	7.2
970099	All other materials and components, parts, containers, and supplies	.....	(X)	173.1	(X)	2120.7
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	23.2	(X)	(D)
	INDUSTRY 3221, GLASS CONTAINERS					
	Materials, parts, containers, and supplies	.....	(X)	1,117.6	(X)	620.0
144611	Glass sand, all types	1,000 s. tons..	8,753.1	92.7	7,818.3	60.1
281228	Sodium carbonate (soda ash) (98-100 percent Na_2CO_3)		2,866.4	231.5	2,640.8	110.4
327403	Lime, including quicklime and dead-burned dolomite		1,902.7	30.9	(X)	418.0
325501	Refractories, clay		(S)	4.0	(S)	2.1
329701	Refractories, nonclay		**15.1	12.0	1.8	1.6
329511	Nonmetallic minerals and earths, ground or otherwise treated		992.5	33.8	(X)	459.0
265001	Paperboard boxes and containers, including corrugated boxes	1,000 s. tons..	(S)	311.1	(S)	(3)
999816	Cullet (glass scrap)	Million lb.....	1,178.7	49.3	1,589.8	28.0
970099	All other materials and components, parts, containers, and supplies consumed	.....	(X)	349.2	(X)	5338.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	3.1	(X)	1.9
	INDUSTRY 3229, PRESSED AND BLOWN GLASS, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	470.8	(X)	257.3
144611	Glass sand, all types	1,000 s. tons..	**1,323.2	26.4	3,640.8	41.0
281228	Sodium carbonate (soda ash) (98-100% Na_2CO_3)		*196.9	16.7	253.0	10.6
281976	Sodium sulfate, including salt cake	1,000 s. tons..	(S)	.8	(D)	(D)
281901	Industrial inorganic chemicals, except sodium carbonate and sodium sulfate	.....	(X)	69.2	(X)	416.0
321121	Plate and float glass	Mil. sq. ft....	-	-	(D)	(D)
321111	Sheet glass	Mil. sq. ft....	(D)	(D)	(D)	(D)
322911	Glass tumblers, stemware, and tableware	.....	(X)	(D)	(X)	5.0
322901	Other glass products	.....	(X)	19.2	(X)	14.1
325501	Refractories, clay	1,000 s. tons..	**5.2	4.4	(S)	2.6
329701	Refractories, nonclay	1,000 s. tons..	**3.1	4.9	(S)	2.7
329511	Nonmetallic minerals and earths, ground or otherwise treated	.....	(X)	17.9	(X)	426.0
265001	Paperboard boxes and containers, including corrugated boxes	.....	(X)	63.7	(X)	37.0
999816	Cullet (glass scrap)	Million lb.....	215.9	7.2	594.8	11.1
970099	All other materials and components, parts, containers, and supplies	.....	(X)	190.6	(X)	84.0
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	41.8	(X)	4.1
	INDUSTRY 3231, PRODUCTS OF PURCHASED GLASS					
	Materials, parts, containers, and supplies	.....	(X)	813.7	(X)	577.0
144611	Glass sand, all types	1,000 s. tons..	(S)	.7	(X)	(2)
281228	Sodium carbonate (soda ash) (98-100% Na_2CO_3)		(D)	(D)	(X)	(2)
281976	Sodium sulfate, including salt cake	1,000 s. tons..	-	-	(X)	(2)
281901	Industrial inorganic chemicals, except sodium carbonate and sodium sulfate	.....	(X)	2.2	(X)	(2)
321121	Plate and float glass	Mil. sq. ft....	755.2	251.0	673.2	238.5
321111	Sheet glass	Mil. sq. ft....	(S)	75.5	393.3	85.3
322911	Glass tumblers, stemware, and tableware	.....	(X)	18.7	(X)	9.0
322901	Other glass products	.....	(X)	58.3	(X)	34.3
325501	Refractories, clay	1,000 s. tons..	(D)	(D)	(X)	(2)
329701	Refractories, nonclay	1,000 s. tons..	(D)	(D)	(X)	(2)
329511	Nonmetallic minerals and earths, ground or otherwise treated	.....	(X)	(D)	(X)	(2)
265001	Paperboard boxes and containers, including corrugated boxes	.....	(X)	19.2	(X)	8.9
999816	Cullet (glass scrap)	Million lb.....	(D)	(D)	(X)	(2)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	199.8	(X)	6135.5
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	173.2	(X)	65.5

Footnotes are on next page.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified.
n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimate in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 281901, 322911, 322901, 329511, and 265001 were included with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[5]For 1972, material code 265001 was included with material code 970099.

[6]For 1972 material codes 144611, 281228, 281976, 281901, 325501, 329701, 329511, and 999816 were included with material code 970099.

Cement and Structural Clay Products

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DESCRIPTION OF INDUSTRIES

CEMENT AND STRUCTURAL CLAY PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3241	Cement, Hydraulic
3251	Brick and Structural Clay Tile
3253	Ceramic Wall and Floor Tile
3255	Clay Refractories
3259	Structural Clay Products, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3241, CEMENT, HYDRAULIC

This industry comprises establishments primarily engaged in the manufacture of hydraulic cement, including portland, natural, masonry, and pozzolan cements.

The total value of shipments for establishments classified in the Cement, Hydraulic industry amounted to $3,042 million in 1977, an increase of 69 percent from 1972. The value of shipments of products classified as primary to the industry was $2,971 million, an increase of 68 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,672 million in 1977, was 44 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 27.8 thousand employees, a decrease of 8 percent from 1972. The leading States in employment were California, Texas, Pennsylvania, and Michigan, accounting for approximately 39 percent of the industry's 1977 employment. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972 when they accounted for approximately 39 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 3251, BRICK AND STRUCTURAL CLAY TILE

This industry comprises establishments primarily engaged in the manufacture of brick and structural clay tile. Establishments primarily engaged in manufacturing clay firebrick are classified in industry 3255, nonclay firebrick in industry 3297, sand lime brick in industry 3299, and glass brick in industry 3229.

The total value of shipments for establishments classified in the Brick and Structural Clay Tile industry amounted to $778 million in 1977, an increase of 52 percent from 1972. The value of shipments of products classified as primary to the industry was $715 million, an increase of 52 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $468 million in 1977, was 39 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 20.5 thousand employees, a decrease of 15 percent from 1972. The leading States in employment were Texas, North Carolina, Ohio, and Pennsylvania, accounting for approximately 37 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of structural clay products only at product class levels. This is the source of the

data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of brick are reported monthly in the Census Bureau's Current Industrial Reports (CIR) M32D, Clay Construction Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3253, CERAMIC WALL AND FLOOR TILE

This industry comprises establishments primarily engaged in the manufacture of ceramic wall and floor tile and includes glazed wall tile, ceramic mosaic tile, and quarry tile. Establishments primarily engaged in manufacturing structural clay tile and facing tile are classified in industry 3251 and drain tile in industry 3259.

The total value of shipments for establishments classified in the Ceramic Wall and Floor Tile industry amounted to $253 million in 1977, an increase of 44 percent from 1972. The value of shipments of products classified as primary to the industry was $222 million, an increase of 41 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $155 million in 1977, was 38 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.8 thousand employees, a decrease of 6 percent from 1972. The leading States in employment were Pennsylvania, Ohio, Texas, and Kentucky, accounting for approximately 60 percent of the industry's 1977 employment. Data for Pennsylvania and Kentucky have been withheld to avoid disclosing operations of individual companies.

The 1977 census obtained data on shipments of structural clay products only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of ceramic wall and floor tile are reported monthly in the Census Bureau's Current Industrial Reports (CIR) M32D, Clay Construction Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3255, CLAY REFRACTORIES

This industry comprises establishments primarily engaged in the manufacture of clay firebrick and other heat resisting clay products. Establishments primarily engaged in manufacturing nonclay refractories, as well as all graphite refractories, whether of carbon bond or ceramic bond, are classified in industry 3297.

The total value of shipments for establishments classified in the Clay Refractories industry amounted to $607 million in 1977, an increase of 80 percent from 1972. The value of shipments of products classified as primary to the industry was $540 million, an increase of 79 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $308 million in 1977, was 52 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 11.3 thousand employees, the same as in 1972. The leading States in employment were Missouri, Pennsylvania, and Ohio, accounting for approximately 65 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of clay refractories only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of clay refractories are reported quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-34C, Refractories. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3259, STRUCTURAL CLAY PRODUCTS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of clay sewer pipe and structural clay products, not elsewhere classified, such as architectural terra cotta, roofing tile, conduit, chimney pipe, wall coping, adobe brick, etc.

The total value of shipments for establishments classified in the Structural Clay Products industry amounted to $215 million in 1977, an increase of 19 percent from 1972. The value of shipments of products classified as primary to the industry was $204 million, an increase of 21 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $126 million in 1977, was 5 percent above value added in 1972.

All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 5.5 thousand employees, a decrease of 33 percent from 1972. The leading States in employment were Ohio and California, accounting for 42 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of structural clay products only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of clay sewer pipe and fittings are reported monthly in the Census Bureau's Current Industrial Reports (CIR) M32D, Clay Construction Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3241, CEMENT, HYDRAULIC																
1977 Census--	84	201	160	27.8	485.1	22.2	44.4	380.0	1 671.5	1 343.0	3 042.3	296.6	(NA)	484.8	99	99
1976 ASM----	(NA)	(NA)	(NA)	28.1	445.3	22.3	44.2	343.3	1 461.3	1 163.5	2 603.8	201.0	3 983.4	464.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	28.7	411.3	22.8	45.1	315.5	1 332.9	1 034.6	2 334.3	355.2	3 850.2	435.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	31.0	411.4	24.9	50.5	320.3	1 374.3	983.1	2 285.2	266.8	3 486.9	410.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	29.7	376.2	23.9	49.0	294.3	1 224.3	737.8	1 987.7	222.6	3 250.3	240.0	(NA)	(NA)
1972 Census--	75	198	171	30.0	349.2	24.3	49.7	275.2	1 153.5	655.4	1 791.2	179.5	3 159.2	239.3	99	99
1971 ASM----	(NA)	(NA)	(NA)	28.8	303.6	23.2	47.4	233.9	976.3	564.9	1 560.3	159.2	2 832.0	211.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	30.2	292.3	24.3	49.3	224.7	886.1	506.7	1 376.7	98.0	2 818.6	229.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	30.4	273.8	24.6	50.6	211.3	890.6	491.8	1 392.1	94.8	2 828.2	203.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	30.8	248.7	24.9	50.8	190.5	868.1	451.7	1 318.4	67.6	2 710.1	202.9	(NA)	(NA)
1967 Census--	65	197	160	32.6	247.7	26.2	52.5	184.4	812.3	439.2	1 246.5	90.5	2 656.9	204.3	99	99
1966 ASM----	(NA)	(NA)	(NA)	33.6	244.3	26.9	54.7	186.1	839.3	424.5	1 253.4	94.8	(NA)	190.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	34.6	243.6	27.9	55.9	181.5	840.4	406.1	1 250.8	117.5	(NA)	176.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	34.7	233.6	28.0	57.0	176.9	805.0	397.4	1 198.9	93.9	2 384.2	179.9	(NA)	(NA)
1963 Census--	55	188	179	34.9	227.4	28.7	57.6	173.9	785.7	388.7	1 176.9	120.8	2 340.8	180.6	99	99
INDUSTRY 3251, BRICK AND STRUCTURAL CLAY TILE																
1977 Census--	253	352	262	20.5	197.3	17.0	34.0	149.2	467.9	299.8	777.7	49.6	(NA)	93.2	97	99
1976 ASM----	(NA)	(NA)	(NA)	20.2	176.6	16.6	32.3	130.8	378.4	262.6	630.9	19.0	480.5	112.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	19.5	160.0	16.1	32.5	116.9	302.1	219.5	519.0	28.6	494.9	99.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	23.4	184.5	19.7	40.4	140.9	323.3	229.2	547.8	42.8	501.5	92.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	24.0	175.1	20.3	41.6	136.4	340.7	191.8	526.1	35.7	431.1	57.4	(NA)	(NA)
1972 Census--	314	417	302	24.1	168.4	20.4	42.2	128.5	336.4	170.5	513.0	38.6	418.7	53.0	98	99
1971 ASM----	(NA)	(NA)	(NA)	22.9	148.4	18.9	39.0	111.5	300.7	154.9	459.8	25.3	400.3	63.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	23.3	139.1	19.5	39.3	104.5	262.8	136.2	392.9	15.8	398.3	66.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	26.9	154.9	22.7	47.4	118.8	273.8	128.8	401.5	26.6	399.2	61.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	27.2	149.4	23.1	47.3	114.7	275.7	121.8	400.0	30.4	381.9	59.0	(NA)	(NA)
1967 Census--	377	482	363	27.5	143.8	23.3	47.9	109.8	251.1	114.8	362.0	27.1	361.8	60.6	98	99
1966 ASM----	(NA)	(NA)	(NA)	29.4	149.3	25.3	53.1	117.3	274.9	123.4	386.8	25.5	(NA)	61.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	29.9	145.1	25.7	53.2	113.8	264.3	120.6	384.7	26.4	(NA)	49.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	29.2	134.8	25.0	52.8	105.7	258.4	106.8	365.9	19.4	257.4	49.7	(NA)	(NA)
1963 Census--	401	512	400	28.6	130.4	24.7	51.2	102.6	216.5	106.0	325.1	19.3	245.2	48.0	98	98
INDUSTRY 3253, CERAMIC WALL AND FLOOR TILE																
1977 Census--	61	79	48	7.8	78.3	6.3	12.8	56.4	155.4	98.7	252.5	6.6	(NA)	42.1	99	95
1976 ASM----	(NA)	(NA)	(NA)	8.7	80.6	7.0	14.2	57.1	151.9	91.6	244.6	12.8	158.4	44.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.3	69.1	6.5	13.1	49.3	133.0	78.6	210.6	4.3	149.4	43.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	9.2	70.2	7.4	15.1	51.7	131.7	78.5	208.0	16.2	146.9	41.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	8.2	60.0	6.8	13.7	44.5	118.6	69.6	190.5	8.0	128.4	33.1	(NA)	(NA)
1972 Census--	64	83	56	8.3	58.5	6.8	14.0	43.4	112.3	65.8	175.6	7.6	126.8	35.0	98	96
1971 ASM----	(NA)	(NA)	(NA)	7.9	50.9	6.4	13.1	36.4	100.9	50.6	152.3	3.6	108.6	31.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.1	58.3	7.1	14.9	39.5	104.0	50.5	154.1	5.6	116.5	37.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	10.1	64.9	8.1	16.6	45.4	110.7	57.0	169.1	8.7	110.7	37.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	10.6	64.2	8.4	17.5	44.5	118.2	56.4	173.1	5.5	110.9	36.9	(NA)	(NA)
1967 Census--	57	80	59	10.6	60.6	8.5	17.6	41.8	105.9	54.9	160.5	4.7	111.0	35.2	94	99
1966 ASM----	(NA)	(NA)	(NA)	11.6	63.5	9.4	19.6	45.8	105.4	58.1	162.1	8.2	(NA)	38.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	12.6	65.6	10.2	20.9	46.5	113.6	60.6	173.0	12.8	(NA)	37.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	13.1	66.4	10.4	21.6	46.2	117.0	60.9	175.4	7.1	96.4	36.4	(NA)	(NA)
1963 Census--	72	90	64	12.8	63.7	10.4	21.0	43.8	110.6	55.1	7.2	9.1	90.4	33.2	95	99
INDUSTRY 3255, CLAY REFRACTORIES																
1977 Census--	98	167	104	11.3	146.8	8.8	17.6	106.5	308.4	296.8	607.2	20.0	(NA)	126.4	89	95
1976 ASM----	(NA)	(NA)	(NA)	11.4	127.5	8.7	16.4	92.9	278.5	246.5	526.6	15.2	320.9	130.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	12.5	126.5	9.6	18.1	90.9	280.6	217.8	500.2	21.7	332.1	131.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	12.3	120.4	9.8	19.4	87.8	294.8	209.4	491.1	12.0	267.4	109.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	11.1	102.8	8.9	17.8	75.6	236.9	147.3	381.5	11.9	261.3	87.8	(NA)	(NA)
1972 Census--	86	156	101	11.2	100.5	8.5	16.6	66.3	202.1	131.3	336.0	10.8	266.6	83.2	87	92
1971 ASM----	(NA)	(NA)	(NA)	11.6	102.1	8.5	16.4	63.6	198.7	122.2	317.9	11.9	259.0	88.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	12.3	103.3	9.2	18.1	65.8	213.6	123.0	333.7	15.5	262.3	80.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	13.0	97.8	10.2	19.6	64.7	195.8	122.1	317.4	12.6	225.0	72.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	12.3	87.9	9.6	18.5	58.7	166.8	105.1	270.2	11.4	212.4	69.1	(NA)	(NA)
1967 Census--	83	145	107	12.6	84.3	10.1	19.2	59.2	151.4	97.4	246.1	17.9	209.2	65.6	92	92
1966 ASM----	(NA)	(NA)	(NA)	13.4	85.4	11.0	21.4	63.3	158.7	111.6	267.1	21.9	(NA)	63.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	12.6	77.6	10.4	20.7	58.5	140.6	103.4	243.3	11.5	(NA)	58.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	11.6	70.6	9.5	18.8	52.8	135.0	86.7	220.8	8.6	196.1	56.6	(NA)	(NA)
1963 Census--	80	150	109	11.4	64.8	9.4	18.1	49.6	118.2	74.5	192.2	7.9	188.7	54.0	91	93

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
	INDUSTRY 3259, STRUCTURAL CLAY PRODUCTS, N.E.C.															
1977 Census--	94	113	57	5.5	64.0	4.5	8.9	48.2	126.1	90.4	214.6	6.1	(NA)	37.2	94	92
1976 ASM----	(NA)	(NA)	(NA)	6.5	60.8	5.3	10.6	44.1	121.1	71.3	192.7	6.9	115.3	36.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	6.4	55.6	5.2	10.5	41.1	118.4	63.5	181.0	9.0	123.0	36.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	7.4	58.8	6.1	12.6	43.9	116.7	71.6	188.5	10.9	115.6	35.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	8.2	68.8	7.0	13.7	52.8	125.3	72.8	196.0	8.9	150.3	36.9	(NA)	(NA)
1972 Census--	88	119	70	8.2	64.0	6.8	13.5	49.5	119.8	62.6	180.7	7.0	140.6	32.9	95	96
1971 ASM----	(NA)	(NA)	(NA)	7.8	60.1	6.2	13.1	43.5	125.7	58.9	185.2	4.6	130.5	30.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	8.1	57.0	6.5	13.6	42.2	109.0	55.5	162.6	5.4	133.7	31.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	9.9	64.5	8.4	17.3	50.9	118.5	63.8	184.9	6.4	132.4	30.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	9.9	60.6	8.4	17.5	48.0	116.8	57.5	171.0	9.6	132.4	33.0	(NA)	(NA)
1967 Census--	110	144	95	9.7	55.2	8.1	16.5	42.9	103.4	48.7	152.9	9.7	129.8	29.7	91	96
1966 ASM----	(NA)	(NA)	(NA)	10.9	58.0	9.2	18.6	45.3	102.8	56.0	155.7	5.9	(NA)	31.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	11.8	62.1	10.0	20.2	49.1	109.3	59.7	167.0	8.5	(NA)	28.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	11.3	61.3	9.4	20.5	47.7	112.7	56.9	168.7	8.6	120.6	26.6	(NA)	(NA)
1963 Census--	126	164	108	12.2	62.0	10.4	21.1	48.7	108.4	53.4	159.7	5.8	116.7	27.4	89	95

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3241, CEMENT, HYDRAULIC											
1977 Census--	17 436	(NA)	79	1 997	8.55	44	60	(NA)	60 083	29	37.64
1976 ASM----	15 846	141 758	79	1 982	7.76	44	61	152	52 003	30	33.06
1975 ASM----	14 331	134 153	79	1 978	6.99	44	61	164	46 442	30	29.55
1974 ASM----	13 270	112 480	80	2 028	6.34	43	61	152	44 332	29	27.21
1973 ASM----	12 666	109 437	80	2 050	6.00	37	56	163	41 222	30	24.98
1972 Census--	11 640	105 306	81	2 045	5.53	36	56	176	38 450	30	23.20
1971 ASM----	10 541	98 333	80	2 043	4.93	36	55	181	33 899	31	20.59
1970 ASM----	9 678	93 331	80	2 028	4.55	36	58	204	29 341	32	17.97
1969 ASM----	9 006	93 032	80	2 056	4.17	35	54	203	29 296	30	17.60
1968 ASM----	8 074	87 990	80	2 040	3.75	34	53	205	28 185	28	17.08
1967 Census--	7 598	81 500	80	2 003	3.51	35	55	213	24 917	30	15.47
1966 ASM----	7 270	(NA)	80	2 033	3.40	33	53	(NA)	24 979	29	15.34
1965 ASM----	7 040	(NA)	80	2 003	3.24	32	51	(NA)	24 289	28	15.03
1964 ASM----	6 731	68 708	80	2 035	3.10	33	52	198	23 198	29	14.12
1963 Census--	6 515	67 071	82	2 006	3.01	33	52	198	22 512	28	13.64
INDUSTRY 3251, BRICK AND STRUCTURAL CLAY TILE											
1977 Census--	9 648	(NA)	83	2 002	4.38	38	63	(NA)	22 874	42	13.74
1976 ASM----	8 742	23 787	82	1 945	4.04	41	69	76	18 732	46	11.71
1975 ASM----	8 205	25 379	82	2 018	3.59	42	73	95	15 492	52	9.29
1974 ASM----	7 884	21 431	84	2 050	3.48	41	75	91	13 816	57	8.00
1973 ASM----	7 295	17 962	84	2 049	3.27	36	69	81	14 195	51	8.18
1972 Census--	6 987	17 373	84	2 068	3.04	33	66	81	13 958	50	7.97
1971 ASM----	6 480	17 480	82	2 063	2.85	33	65	87	13 131	49	7.71
1970 ASM----	5 969	17 094	83	2 015	2.65	34	70	101	11 278	52	6.68
1969 ASM----	5 758	14 840	84	2 088	2.50	32	70	99	10 178	56	5.77
1968 ASM----	5 492	14 040	84	2 047	2.42	30	67	95	10 136	54	5.82
1967 Census--	5 229	13 156	84	2 055	2.29	31	71	99	9 130	57	5.24
1966 ASM----	5 078	(NA)	86	2 098	2.20	31	70	(NA)	9 350	54	5.17
1965 ASM----	4 852	(NA)	85	2 070	2.13	31	69	(NA)	8 839	54	4.96
1964 ASM----	4 616	8 815	85	2 112	2.00	29	66	70	8 849	52	4.89
1963 Census--	4 559	8 573	86	2 072	2.00	32	72	75	7 569	60	4.22
INDUSTRY 3253, CERAMIC WALL AND FLOOR TILE											
1977 Census--	10 096	(NA)	81	2 021	4.39	39	70	(NA)	20 038	50	12.11
1976 ASM----	9 264	18 206	80	2 028	4.02	37	70	64	17 459	53	10.69
1975 ASM----	8 325	18 000	78	2 015	3.76	37	70	70	16 024	51	10.15
1974 ASM----	7 630	15 967	80	2 040	3.42	37	71	70	14 315	53	8.72
1973 ASM----	7 317	15 658	82	2 014	3.24	36	68	67	14 463	50	8.65
1972 Census--	7 048	15 277	81	2 058	3.10	37	70	72	13 530	52	8.02
1971 ASM----	6 443	13 746	81	2 046	2.77	33	66	71	12 772	50	7.70
1970 ASM----	6 406	12 802	78	2 098	2.65	32	70	75	11 428	56	6.97
1969 ASM----	6 425	10 960	80	2 049	2.73	33	72	65	10 960	58	6.66
1968 ASM----	6 056	10 462	79	2 083	2.54	32	69	64	11 150	54	6.75
1967 Census--	5 716	10 471	80	2 070	2.37	34	71	69	9 990	57	6.01
1966 ASM----	5 474	(NA)	81	2 085	2.33	35	75	(NA)	9 086	60	5.37
1965 ASM----	5 206	(NA)	80	2 049	2.22	35	72	(NA)	9 015	57	5.43
1964 ASM----	5 068	7 358	79	2 076	2.13	34	72	54	8 931	56	5.41
1963 Census--	4 976	7 062	81	2 019	2.08	33	72	54	8 640	57	5.26
INDUSTRY 3255, CLAY REFRACTORIES											
1977 Census--	13 036	(NA)	77	2 006	6.06	48	73	(NA)	27 387	47	17.56
1976 ASM----	11 184	28 149	76	1 885	5.66	46	71	60	24 429	45	16.98
1975 ASM----	10 120	26 568	76	1 885	5.02	43	68	66	22 448	45	15.50
1974 ASM----	9 788	21 739	79	1 979	4.52	42	67	54	23 967	40	15.19
1973 ASM----	9 261	23 540	80	2 000	4.24	38	65	68	21 342	43	13.30
1972 Census--	8 973	23 803	75	1 952	3.99	39	68	79	18 044	49	12.17
1971 ASM----	8 801	22 327	73	1 929	3.87	38	70	81	17 129	51	12.11
1970 ASM----	8 398	21 325	74	1 967	3.63	36	67	78	17 365	48	11.80
1969 ASM----	7 523	17 307	78	1 921	3.30	38	69	70	15 061	49	9.98
1968 ASM----	7 146	17 268	78	1 927	3.17	38	71	78	13 560	52	9.01
1967 Census--	6 690	16 603	80	1 900	3.08	39	73	85	12 015	55	7.88
1966 ASM----	6 373	(NA)	82	1 945	2.95	41	73	(NA)	11 843	53	7.41
1965 ASM----	6 158	(NA)	82	1 990	2.82	42	74	(NA)	11 158	55	6.79
1964 ASM----	6 086	16 905	81	1 978	2.80	39	71	88	11 637	52	7.18
1963 Census--	5 684	16 552	82	1 925	2.74	38	72	98	10 368	54	6.53

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3259, STRUCTURAL CLAY PRODUCTS, N.E.C.										
1977 Census--	11 574	(NA)	81	1 981	5.41	42	71	(NA)	22 823	50	14.14
1976 ASM----	9 353	17 738	81	2 000	4.16	37	68	59	18 630	50	11.42
1975 ASM----	8 687	19 218	81	2 019	3.91	35	65	67	18 500	46	11.27
1974 ASM----	7 945	15 621	82	2 065	3.48	37	69	61	15 770	50	9.26
1973 ASM----	8 390	18 329	85	1 957	3.85	37	72	76	15 280	54	9.14
1972 Census--	7 804	17 146	82	1 985	3.66	34	70	77	14 609	53	8.87
1971 ASM----	7 705	16 730	79	2 112	3.32	31	64	70	16 115	47	9.59
1970 ASM----	7 037	16 506	80	2 092	3.10	34	69	82	13 456	52	8.01
1969 ASM----	6 515	13 373	84	2 059	2.94	34	69	71	11 969	54	6.84
1968 ASM----	6 121	13 373	84	2 083	2.74	33	69	77	11 797	51	6.67
1967 Census--	5 690	13 381	83	2 037	2.60	31	67	84	10 659	53	6.26
1966 ASM----	5 321	(NA)	84	2 021	2.43	35	73	(NA)	9 431	56	5.52
1965 ASM----	5 262	(NA)	84	2 020	2.43	35	72	(NA)	9 262	56	5.41
1964 ASM----	5 424	10 672	83	2 180	2.32	33	70	71	9 973	54	5.49
1963 Census--	5 081	9 565	85	2 028	2.30	33	72	73	8 885	57	5.13

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3241, CEMENT, HYDRAULIC													
United States	-	**201**	**160**	**27.8**	**485.1**	**22.2**	**44.4**	**380.0**	**1 671.5**	**1 343.0**	**3 042.3**	**296.6**	**30.0**	**1 153.5**
New England Division:													
Maine	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Middle Atlantic Division:													
New York	-	8	6	1.1	20.4	0.9	1.7	16.2	42.1	48.8	88.8	2.5	EE	(D)
Pennsylvania	-	16	15	2.8	45.3	2.3	4.3	36.2	104.6	104.1	212.5	3.6	3.3	103.8
East North Central Division:														
Ohio	-	8	5	0.9	16.2	0.7	1.5	12.1	35.0	40.0	76.1	3.7	1.4	37.7
Indiana	-	6	5	1.0	17.7	0.8	1.6	14.0	47.8	51.6	101.1	14.8	0.6	33.1
Illinois	-	4	3	0.5	8.6	0.4	0.8	7.0	34.4	23.6	57.7	1.0	0.7	22.3
Michigan	-	9	7	1.8	31.9	1.4	3.0	25.0	104.5	81.5	192.5	7.6	2.0	85.7
West North Central Division:														
Iowa	-	5	5	1.1	19.6	1.0	2.0	16.6	56.8	48.1	105.4	(D)	1.1	37.7
Missouri	-	10	7	1.3	23.2	1.0	2.0	18.2	110.9	58.2	170.6	6.3	1.2	55.9
South Dakota	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Nebraska	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Kansas	-	5	5	0.8	13.7	0.7	1.3	10.7	50.1	27.4	78.9	(D)	0.8	26.8
South Atlantic Division:														
Maryland	-	4	3	0.4	7.7	0.4	0.7	6.8	27.7	19.6	47.4	(D)	BB	(D)
Virginia	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West Virginia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Carolina	-	3	3	0.6	10.0	0.5	1.0	7.9	32.5	32.4	65.1	(D)	BB	(D)
Georgia	-	3	3	0.4	6.7	0.3	0.6	5.1	18.8	25.1	44.1	(D)	0.4	16.1
Florida	-	8	4	0.5	9.9	0.5	0.9	7.8	42.8	42.8	84.8	2.5	CC	(D)
East South Central Division:														
Kentucky	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Tennessee	-	11	6	0.9	13.9	0.7	1.4	11.4	29.6	35.2	66.2	(D)	0.8	30.3
Alabama	-	7	7	1.2	21.6	0.9	2.0	16.6	50.6	50.7	103.5	100.7	1.1	38.4
Mississippi	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Arkansas	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Louisiana	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	15.7
Oklahoma	-	3	3	0.4	7.5	0.3	0.6	5.6	41.9	18.5	62.2	4.0	BB	(D)
Texas	-	22	19	3.0	48.9	2.3	4.8	37.7	195.1	183.1	383.6	46.1	2.8	121.3
Mountain Division:														
Montana	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Colorado	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Arizona	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Utah	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Nevada	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	5	4	0.5	8.3	0.4	0.8	6.5	40.4	33.5	74.2	1.3	0.4	17.7
Oregon	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California	-	17	13	3.2	62.1	2.6	5.1	48.8	265.6	169.0	436.1	22.2	3.7	130.4
Hawaii	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
INDUSTRY 3251, BRICK AND STRUCTURAL CLAY TILE														
United States	-	**352**	**262**	**20.5**	**197.3**	**17.0**	**34.0**	**149.2**	**467.9**	**299.8**	**777.7**	**49.6**	**24.1**	**336.4**
Middle Atlantic Division:														
New York	E2	9	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pennsylvania	-	25	14	1.3	11.7	1.0	1.9	9.0	25.8	18.4	45.3	2.5	EE	(D)
East North Central Division:														
Ohio	-	31	29	1.9	19.6	1.6	3.2	15.3	39.7	26.8	68.5	1.7	2.4	34.1
Indiana	-	10	6	0.5	5.2	0.5	0.9	4.5	10.6	6.1	16.9	0.5	CC	(D)
Illinois	-	8	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	9.3
West North Central Division:														
Iowa	-	5	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Missouri	-	6	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Nebraska	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Kansas	-	6	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Maryland	-	7	5	0.3	3.4	0.2	0.5	2.4	6.8	3.9	10.7	0.2	BB	(D)
Virginia	-	9	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West Virginia	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	27	25	1.9	17.9	1.5	3.1	11.5	41.8	30.0	73.4	6.9	EE	(D)
South Carolina	-	14	13	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Georgia	-	9	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.1	33.9
East South Central Division:														
Kentucky	-	10	6	0.3	3.1	0.3	0.5	2.3	10.6	5.2	15.5	0.9	BB	(D)
Tennessee	-	7	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Alabama	-	18	15	0.9	8.0	0.8	1.6	6.1	21.5	16.9	38.9	(D)	0.7	9.6
Mississippi	-	13	12	1.0	7.7	0.8	1.7	5.4	20.2	16.3	37.1	(D)	1.0	13.7
West South Central Division:														
Arkansas	-	7	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Louisiana	-	9	6	0.3	2.2	0.3	0.5	1.7	5.7	3.0	8.6	0.3	BB	(D)
Oklahoma	-	8	8	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Texas	-	33	26	2.4	21.7	2.1	4.5	17.6	55.6	27.6	83.1	7.2	2.1	28.1

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3251, BRICK AND STRUCTURAL CLAY TILE—Con.														
Mountain Division:														
Colorado	–	6	6	0.8	7.9	0.6	1.0	6.1	13.3	8.9	22.2	(D)	0.8	10.4
Utah	–	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
Washington	E1	7	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.8
California	–	18	11	0.8	10.5	0.7	1.4	8.0	22.3	11.9	34.3	(D)	0.7	11.2
INDUSTRY 3253, CERAMIC WALL AND FLOOR TILE														
United States	–	**79**	**48**	**7.8**	**78.3**	**6.3**	**12.8**	**56.4**	**155.4**	**98.7**	**252.5**	**6.6**	**8.3**	**112.3**
Middle Atlantic Division:														
New York	–	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
New Jersey	–	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pennsylvania	–	7	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East North Central Division:														
Ohio	–	12	9	1.3	13.6	1.1	2.2	10.0	30.4	10.5	40.7	0.6	EE	(D)
South Atlantic Division:														
North Carolina	–	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	–	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East South Central Division:														
Kentucky	–	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Tennessee	–	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Alabama	–	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Mississippi	–	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Texas	–	11	7	1.2	9.8	1.0	1.9	5.7	20.5	27.6	47.1	0.7	EE	(D)
Pacific Division:														
California	–	14	8	0.6	6.2	0.5	1.1	4.8	8.6	9.2	17.0	(D)	CC	(D)
INDUSTRY 3255, CLAY REFRACTORIES														
United States	–	**157**	**104**	**11.3**	**146.8**	**8.8**	**17.6**	**106.5**	**308.4**	**296.8**	**607.2**	**20.0**	**11.2**	**202.1**
Middle Atlantic Division:														
Pennsylvania	–	33	23	2.3	31.3	1.8	3.5	22.1	59.8	57.8	116.3	3.7	FF	(D)
East North Central Division:														
Ohio	–	47	27	2.2	26.9	1.7	4.0	19.5	55.5	42.1	98.3	2.2	EE	(D)
Illinois	–	8	7	0.3	3.1	0.2	0.4	2.2	11.6	17.3	28.9	0.6	(NA)	(NA)
West North Central Division:														
Missouri	–	11	9	2.9	41.0	2.4	4.5	32.9	76.8	90.2	172.0	6.0	FF	(D)
South Atlantic Division:														
Maryland	–	3	2	0.2	3.9	0.2	0.4	3.1	8.4	7.1	15.6	0.4	0.3	6.2
West Virginia	–	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	–	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East South Central Division:														
Kentucky	–	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	3.5
Alabama	–	6	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	7.2
West South Central Division:														
Texas	E2	8	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Mountain Division:														
Colorado	–	4	3	0.2	1.6	0.1	0.3	1.2	3.8	2.6	6.5	(D)	(NA)	(NA)
Pacific Division:														
California	–	10	7	0.3	4.0	0.2	0.4	2.2	7.8	7.8	15.3	(D)	AA	(D)
INDUSTRY 3259, STRUCTURAL CLAY PRODUCTS, N.E.C.														
United States	–	**113**	**57**	**5.5**	**64.0**	**4.5**	**8.9**	**48.2**	**126.1**	**90.4**	**214.6**	**6.1**	**8.2**	**119.8**
Middle Atlantic Division:														
Pennsylvania	–	6	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East North Central Division:														
Ohio	–	24	16	1.3	16.5	1.1	2.0	12.4	28.8	18.8	47.5	1.3	2.1	27.0
Indiana	–	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Illinois	–	9	4	0.3	4.0	0.3	0.5	3.3	8.9	7.4	15.5	(D)	0.3	6.4
West North Central Division:														
Iowa	–	4	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Kansas	–	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
North Carolina	–	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	–	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central Division:														
Alabama	–	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Texas	–	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pacific Division:														
California	–	15	11	1.0	11.6	0.9	1.7	10.2	27.3	17.1	43.3	0.6	EE	(D)

– Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Cement, hydraulic (SIC 3241)	Brick and structural clay tile (SIC 3251)	Ceramic wall and floor tile (SIC 3253)	Clay refractories (SIC 3255)	Structural clay products, n.e.c. (SIC 3259)
All establishments	number	201	352	79	167	113
With 1 to 19 employees	do	41	90	31	63	56
With 20 to 99 employees	do	28	210	19	76	38
With 100 employees or more	do	132	52	29	28	19
All employees, average for year	1,000	27.8	20.5	7.8	11.3	5.5
Payroll for year, all employees	mil. dol.	485.1	197.3	78.3	146.8	64.0
Production workers:						
Average for year	1,000	22.2	17.0	6.3	8.8	4.5
March	do	21.3	15.2	6.0	8.6	3.8
May	do	22.1	17.2	6.4	8.9	4.7
August	do	23.0	18.0	6.5	9.1	4.9
November	do	22.5	17.5	6.5	8.5	4.6
Hours	millions	44.4	34.0	12.8	17.6	8.9
January to March	do	10.4	7.1	2.9	4.3	1.8
April to June	do	11.3	8.7	3.3	4.5	2.3
July to September	do	11.6	9.2	3.3	4.6	2.5
October to December	do	11.2	8.9	3.3	4.2	2.3
Wages	mil. dol.	380.0	149.2	56.4	106.5	48.2
Cost of materials, etc.	do	1 343.0	289.8	98.7	296.8	90.4
Materials, parts, containers, etc., consumed	do	532.7	128.0	54.2	221.6	45.2
Resales	do	45.2	32.3	29.2	26.0	11.2
Fuels consumed	do	503.5	106.6	11.7	38.3	27.1
Purchased electric energy	do	229.5	24.4	3.6	9.3	5.0
Contract work	do	32.2	8.6	(Z)	1.7	1.9
Value of shipments, including resales	do	3 042.3	777.7	252.5	607.2	214.6
Value of resales	do	45.6	41.9	39.8	28.7	13.3
Value added by manufacture	do	1 671.5	467.9	155.4	308.4	126.1
Manufacturers' inventories:						
Beginning of year	do	463.2	98.3	40.3	131.4	34.5
Finished products	do	137.4	72.3	27.1	59.9	23.8
Work in process	do	89.1	4.4	3.3	5.6	2.8
Materials, supplies, fuel, etc.	do	236.7	21.5	10.0	65.9	7.9
End of year	do	484.8	93.2	42.1	126.4	37.2
Finished products	do	124.4	61.6	28.4	56.2	24.9
Work in process	do	74.3	5.1	3.5	7.3	3.7
Materials, supplies, fuel, etc.	do	286.1	26.5	10.1	62.9	8.7
Capital expenditures for plant and equipment	do	303.2	51.7	7.3	20.9	7.6
New capital expenditures	do	296.6	49.6	6.6	20.0	6.1
New buildings and other structures	do	41.7	10.2	0.7	4.4	1.4
New machinery and equipment	do	254.9	39.5	6.0	15.6	4.6
Used capital expenditures	do	6.7	2.1	0.6	0.9	1.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Cement, hydraulic (SIC 3241)		Brick and structural clay tile (SIC 3251)		Ceramic wall and floor tile (SIC 3253)		Clay refractories (SIC 3255)		Structural clay products, n.e.c. (SIC 3259)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	2.6	14	(0.8)	19	0.5	14	2.3	13	(D)	35
Response coverage ratio[2] (percent)	53	(X)	55	(X)	53	(X)	44	(X)	29	(X)
Machinery	61.3	3	(16.1)	17	(4.4)	37	9.1	6	(5.7)	30
Response coverage ratio[2] (percent)	55	(X)	58	(X)	51	(X)	46	(X)	24	(X)
Cost of purchased communication services	3.4	5	(1.3)	20	(0.8)	18	(1.8)	22	(0.6)	21
Response coverage ratio[2] (percent)	44	(X)	61	(X)	80	(X)	79	(X)	28	(X)
Rental payments	16.1	3	(2.7)	36	(0.8)	15	(2.5)	26	(0.8)	43
Buildings and other structures	2.5	1	(0.3)	70	(0.2)	52	(0.8)	46	(0.5)	71
Machinery and equipment	13.6	4	(2.4)	33	0.6	12	(1.7)	26	(0.3)	25
Supplemental labor costs	132.0	1	29.2	3	14.1	5	39.4	2	12.9	4
Legal costs	38.8	1	16.9	3	7.3	6	13.9	3	6.5	8
Voluntary costs	93.3	1	12.3	5	6.8	6	25.5	2	6.4	6
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	863.2	1	140.1	6	42.1	8	93.7	8	(34.8)	16
New capital expenditures	41.6	2	(10.6)	34	(0.4)	65	4.0	8	(1.0)	37
Used capital expenditures	3.5	1	(0.4)	47	-	(X)	0.2	1	-	(X)
Retirements	11.0	2	(2.4)	19	(0.1)	91	(2.7)	57	3.8	4
End of year	897.3	1	148.6	6	42.5	8	95.1	8	(32.1)	18
Machinery and equipment:										
Beginning of year	3,116.1	1	348.8	6	91.7	7	229.0	5	67.5	10
New capital expenditures	255.1	1	33.1	12	(5.9)	15	13.8	6	4.0	13
Automobiles, trucks, etc., for highway use[3]	(5.2)	(A)	(4.8)	(A)	(D)	(A)	(0.5)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(11.8)	(A)	(0.5)	(A)	-	(X)	(Z)	(A)	(D)	(A)
All other[3]	177.4	11	(23.2)	86	(D)	(A)	(12.7)	(A)	(D)	(A)
New machinery and equipment, n.s.k.[4]	(60.6)	33	(4.6)	(A)	(0.7)	(A)	(0.6)	(A)	(0.3)	(A)
Used capital expenditures	(3.5)	16	(1.7)	48	0.5	1	(0.5)	16	1.6	14
Retirements	95.0	12	6.4	11	(0.8)	34	(10.1)	44	11.0	5
End of year	3,279.6	1	377.2	5	97.4	7	233.3	5	62.2	11
Total gross value of depreciable assets:										
Beginning of year	3,979.4	1	488.9	12	133.9	7	322.7	6	102.4	12
New capital expenditures	296.6	1	(43.6)	16	(6.3)	18	17.7	5	(5.0)	17
Used capital expenditures	7.0	8	(2.1)	46	0.6	1	0.7	12	1.6	14
Retirements	106.0	10	8.8	10	(0.9)	42	(12.8)	43	14.8	4
End of year	4,176.9	1	525.8	4	139.9	7	328.4	5	94.3	13
Depreciation charges during 1977	214.3	1	32.5	7	6.8	6	16.4	7	5.0	10
Buildings and other structures	35.7	1	7.6	12	1.4	4	3.2	11	(1.2)	15
Machinery and equipment	178.6	1	24.9	7	5.4	7	13.2	7	3.9	9

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3241, CEMENT, HYDRAULIC												
Total	-	201	27.8	485.1	22.2	44.4	380.0	1 671.5	1 343.0	3 042.3	296.6	484.8
Establishments with an average of—												
1 to 4 employees	E3	16	0.1	1.4	0.1	0.2	1.0	2.6	3.4	6.1	(20.2)	1.1
5 to 9 employees	E1	11	0.1	1.1	0.1	0.1	0.8	1.9	2.8	4.7	(D)	0.9
10 to 19 employees	-	14	0.2	2.6	0.1	0.3	1.7	22.0	12.4	35.0	0.4	4.0
20 to 49 employees	-	5	0.2	2.7	0.1	0.3	1.8	9.9	16.5	26.4	0.1	4.9
50 to 99 employees	-	23	1.9	32.7	1.5	2.8	25.1	137.3	133.2	269.7	11.9	36.0
100 to 249 employees	-	114	19.2	332.4	15.6	31.2	264.8	1 109.7	887.3	2 020.4	(264.0)	331.1
250 to 499 employees	-	16	(6.3)	(112.2)	(4.8)	(9.7)	(84.8)	(388.1)	(287.4)	(680.0)	(D)	(106.8)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	12	(Z)	0.5	(Z)	(Z)	0.3	1.1	0.9	2.0	0.2	0.4
INDUSTRY 3251, BRICK AND STRUCTURAL CLAY TILE												
Total	-	352	20.5	197.3	17.0	34.0	149.2	457.9	299.8	777.7	49.6	93.2
Establishments with an average of—												
1 to 4 employees	E8	44	0.1	0.7	0.1	0.1	0.5	1.6	1.4	3.0	0.1	0.4
5 to 9 employees	E5	29	0.2	1.8	0.2	0.3	1.3	5.5	4.5	10.0	0.3	1.2
10 to 19 employees	E5	17	0.3	2.4	0.2	0.4	1.6	6.5	4.9	11.4	0.3	1.8
20 to 49 employees	-	95	3.4	32.1	2.9	5.7	23.9	73.8	52.8	128.6	8.3	13.4
50 to 99 employees	-	115	8.0	78.5	6.8	13.6	59.8	192.6	114.4	310.5	21.2	32.3
100 to 249 employees	-	48	7.1	69.7	5.9	11.9	52.7	160.3	107.3	270.1	18.3	38.0
250 to 499 employees	-	4	1.4	12.1	1.0	2.1	9.3	27.6	14.5	44.1	1.1	6.0
Covered by administrative records[2]	E0	71	0.4	4.0	0.4	0.7	2.9	9.8	7.0	16.8	0.6	2.5
INDUSTRY 3253, CERAMIC WALL AND FLOOR TILE												
Total	-	79	7.8	78.3	5.3	12.8	56.4	155.4	98.7	252.5	6.6	42.1
Establishments with an average of—												
1 to 4 employees	E8	17	(Z)	0.2	(Z)	(Z)	0.2	0.1	0.3	0.7	(Z)	0.1
5 to 9 employees	E8	7	(Z)	0.5	(Z)	0.1	0.3	0.9	0.6	1.4	0.1	0.2
10 to 19 employees	E0	7	0.1	0.8	0.1	0.1	0.6	1.4	0.9	2.4	(1.8)	0.4
20 to 49 employees	E1	13	0.4	3.4	0.4	0.7	2.4	5.4	3.5	8.8	(D)	1.3
50 to 99 employees	-	6	0.5	4.7	0.4	0.8	3.8	7.6	3.3	10.7	(D)	1.6
100 to 249 employees	-	20	3.0	29.7	2.5	5.1	22.7	55.6	35.4	90.5	2.5	15.4
250 to 499 employees	-	7	(3.7)	(39.0)	(2.9)	(6.0)	(26.4)	(84.5)	(54.7)	(138.0)	(2.3)	(23.0)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	26	0.1	1.3	0.1	0.2	0.9	2.3	1.5	3.8	0.1	0.6
INDUSTRY 3255, CLAY REFRACTORIES												
Total	-	167	11.3	146.8	8.8	17.6	106.5	308.4	296.8	607.2	20.0	126.4
Establishments with an average of—												
1 to 4 employees	E5	30	(Z)	0.4	(Z)	0.1	0.3	1.2	1.2	2.6	0.1	0.7
5 to 9 employees	E2	13	0.1	1.2	0.1	0.1	0.7	3.9	3.5	7.4	0.1	1.5
10 to 19 employees	E2	20	0.3	3.2	0.2	0.5	2.5	8.9	9.2	18.0	0.3	3.2
20 to 49 employees	-	38	1.3	15.0	1.0	1.9	10.4	40.8	42.3	83.3	1.9	10.3
50 to 99 employees	-	38	2.5	29.3	2.0	4.6	21.8	70.2	55.7	126.0	(14.6)	23.3
100 to 249 employees	-	19	2.7	38.1	2.1	4.1	28.0	71.4	68.3	138.7	(D)	27.0
250 to 499 employees	-	6	2.0	28.7	1.5	2.9	21.0	55.2	45.0	99.6	(D)	19.4
500 to 999 employees	-	3	2.4	30.9	1.8	3.4	21.7	56.8	71.6	131.7	2.9	41.0
Covered by administrative records[2]	E0	37	0.2	2.7	0.2	0.4	2.0	5.4	4.9	10.3	0.4	2.5
INDUSTRY 3259, STRUCTURAL CLAY PRODUCTS, N.E.C.												
Total	-	113	5.5	64.0	4.5	8.9	46.2	126.1	90.4	214.6	6.1	37.2
Establishments with an average of—												
1 to 4 employees	E8	32	(Z)	0.5	(Z)	0.1	0.4	1.0	0.7	1.7	(0.5)	0.3
5 to 9 employees	E2	4	(Z)	0.3	(Z)	(Z)	0.1	0.5	0.5	1.1	(D)	0.1
10 to 19 employees	E3	20	0.3	3.0	0.2	0.4	2.1	5.8	4.0	9.6	(D)	1.4
20 to 49 employees	-	24	0.8	9.1	0.6	1.3	6.3	17.3	10.7	28.0	0.8	3.2
50 to 99 employees	-	14	1.0	11.3	0.8	1.6	9.3	22.2	18.7	40.3	0.8	7.3
100 to 249 employees	-	17	(3.4)	(39.8)	(2.8)	(5.5)	(30.1)	(79.4)	(55.9)	(134.0)	(4.0)	(24.9)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	34	0.1	1.4	0.1	0.2	1.0	2.5	1.9	4.4	0.2	0.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3241	**Cement, hydraulic:**										
	Entire industry	201	27.8	485.1	22.2	44.4	380.0	1 671.5	1 343.0	3 042.3	296.6
	Establishments with 75 percent specialization or more	191	27.2	475.8	21.8	43.5	374.3	1 645.0	1 312.0	2 984.3	(D)
3251	**Brick and structural clay tile:**										
	Entire industry	352	20.5	197.3	17.0	34.0	149.2	467.9	299.8	777.7	49.6
	Establishments with 75 percent specialization or more	339	19.0	184.2	15.9	32.0	138.8	439.4	285.8	735.5	48.0
32511	Brick, except ceramic glazed and refractory:										
	Establishments with this product class primary	255	19.1	184.8	15.9	31.9	140.2	442.4	282.5	734.7	48.1
	Establishments with 75 percent specialization or more in class	243	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32512	Glazed brick, structural hollow and facing tile:										
	Establishments with this product class primary	5	0.5	4.9	0.4	0.8	3.4	7.3	4.6	12.1	0.3
	Establishments with 75 percent specialization or more in class	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3253	**Ceramic wall and floor tile:**										
	Entire industry	79	7.8	78.3	6.3	12.8	56.4	155.4	98.7	252.5	6.6
	Establishments with 75 percent specialization or more	78	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3255	**Clay refractories:**										
	Entire industry	167	11.3	146.8	8.8	17.6	106.5	308.4	296.8	607.2	20.0
	Establishments with 75 percent specialization or more	155	9.3	123.0	7.4	15.0	91.3	247.3	229.7	480.8	(D)
3259	**Structural clay products, n.e.c.:**										
	Entire industry	113	5.5	64.0	4.5	8.9	48.2	126.1	90.4	214.6	6.1
	Establishments with 75 percent specialization or more	104	4.9	57.5	4.0	7.9	43.4	116.5	82.3	197.5	(D)
32591	Vitrified clay sewer pipe and fittings:										
	Establishments with this product class primary	30	3.9	45.5	3.2	6.4	34.6	92.2	66.6	157.5	4.4
	Establishments with 75 percent specialization or more in class	20	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32592	Other structural clay products, n.e.c.:										
	Establishments with this product class primary	37	1.4	15.4	1.1	2.1	11.4	28.8	20.8	49.0	1.4
	Establishments with 75 percent specialization or more in class	32	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. **Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967**

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3241	Cement, hydraulic	1977	3,042.3	2,960.5	28.6	53.2	99	2,971.0	2,960.5	10.5	99
		1972	1,791.2	1,756.1	14.3	20.8	99	1,770.0	1,756.1	13.9	99
		1967	1,246.5	1,217.4	8.3	20.8	99	1,221.7	1,217.4	4.3	99
3251	Brick and structural clay tile	1977	777.7	713.1	20.2	44.4	97	715.3	713.1	2.2	99
		1972	513.0	468.2	10.6	34.2	98	471.3	468.2	3.1	99
		1967	362.0	340.0	7.6	14.4	98	343.9	340.0	3.9	99
3253	Ceramic wall and floor tile	1977	252.5	211.4	1.1	40.0	99	222.4	211.4	11.0	95
		1972	175.6	150.8	3.5	21.3	98	157.9	150.8	7.1	96
		1967	160.5	133.3	9.2	18.0	94	134.8	133.3	1.5	99
3255	Clay refractories	1977	607.2	510.4	62.9	34.0	89	540.1	510.4	29.7	95
		1972	336.0	277.3	42.5	16.2	87	302.2	278.7	23.5	92
		1967	246.1	216.5	19.6	10.0	92	235.3	216.5	18.8	92
3259	Structural clay products, n.e.c.	1977	214.6	187.0	12.3	15.3	94	204.3	187.0	17.3	92
		1972	180.7	162.7	8.0	10.0	95	169.3	162.7	6.6	96
		1967	152.9	131.8	13.2	7.9	91	137.1	131.8	5.3	96

n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Cement, hydraulic (SIC 3241)	Brick and structural clay tile (SIC 3251)	Ceramic wall and floor tile (SIC 3253)	Clay refractories (SIC 3255)	Structural clay products, n.e.c. (SIC 3259)	Other industries
	Total	(X)	3,042.3	777.7	252.5	607.2	214.6	(X)
	Primary products	(X)	2,960.5	713.1	211.4	510.4	187.0	(X)
	Secondary products	(X)	28.6	20.2	1.1	62.9	12.3	(X)
	Miscellaneous receipts	(X)	53.2	44.4	40.0	34.0	15.3	(X)
32410	Cement, hydraulic	2,971.0	2,960.5	-	-	-	-	10.6
3251-	Brick and structural clay tile	715.3	-	713.1	(D)	.1	(D)	(D)
32511	Brick, except ceramic glazed and refractory	671.8	-	671.2	(D)	-	(D)	(D)
32512	Glazed brick, structural hollow and facing tile	11.8	-	11.6	(D)	-	(D)	-
32510	Brick and structural clay tile, n.s.k.	31.7	-	30.2	-	.1	-	1.4
32530	Clay floor and wall tile (including quarry tile)	222.4	-	(D)	211.4	-	(D)	(D)
32550	Clay refractories	540.1	-	(D)	-	510.4	(D)	23.0
3259-	Structural clay products, n.e.c.	204.3	-	10.8	(D)	(D)	187.0	(D)
32591	Vitrified clay sewer pipe and fittings	133.6	-	(D)	-	(D)	127.7	(D)
32592	Other structural clay products, n.e.c.	63.0	-	(D)	(D)	(D)	51.9	(D)
32590	Structural clay products, n.e.c., n.s.k.	7.7	-	-	.1	(Z)	7.4	.2
	Other shipments by 4-digit product group:							
1422-	Crushed and broken limestone	(X)	(D)	-	-	-	-	(X)
1442-	Construction sand and gravel	(X)	(D)	-	-	-	-	(X)
2951-	Paving mixtures and blocks	(X)	(D)	-	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	-	-	-	-	(D)	(X)
3273-	Ready-mixed concrete	(X)	(D)	-	-	-	-	(X)
3274-	Lime	(X)	(D)	-	-	-	-	(X)
3295-	Minerals, ground or treated	(X)	(D)	(D)	-	(D)	-	(X)
3296-	Mineral wool	(X)	(D)	-	-	(D)	-	(X)
3297-	Nonclay refractories	(X)	-	(D)	-	46.2	-	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	(D)	(D)	-	(D)	(D)	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	(D)	.2	(D)	(D)	(X)
99989 00	Resales	(X)	45.6	41.9	39.8	28.7	13.3	(X)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
3241-	3273 Ready-mixed concrete	(D)	3255-	3297 Nonclay refractories	20.0
3253-	3263 Fine earthenware food utensils	(D)			

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CEMENT, HYDRAULIC						
3241- --	Total		(X)	(X)	2,971.0	(X)	1,770.0
32410 --	Cement, hydraulic, including cost of shipping containers:						
	Portland cement:						
32410 12	Normal portland cement ASTM type I	Million s. tons	53	55.1	1,977.6	76.3	1,621.0
32410 13	Moderate heat of hydration (moderate sulfate resistance) ASTM type II		33	13.3	534.4		
32410 14	High early strength ASTM type III		38	2.3	90.7		
32410 15	Low heat of hydration ASTM type IV		2	.5	19.6		
32410 16	High sulfate resistance ASTM type V		10				
32410 17	Other portland cements, including oil well and waterproof, but excluding white portland (ASTM type I) and portland slag (ASTM type II)		21	2.4	98.3		
	Other cements:						
32410 21	Masonry cement		40	3.8	196.7	4.4	133.5
32410 23	Prepared or mixed hydraulic cements		9	.5	31.6		
32410 24	Natural and hydraulic lime cements		-				
32410 00	Cement, hydraulic, n.s.k., typically for establishments with 5 employees or more (see note)		28	(X)	20.2	(X)	14.3
32410 02	Cement hydraulic, n.s.k., typically for establishments with less than 5 employees (see note)	Million s. tons	5	(X)	2.0	(X)	1.2

1977 product code	Product	Unit of measure	1977				1972	
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments
					Quantity[2]	Value (million dollars)		Quantity / Value (million dollars)
	BRICK AND STRUCTURAL CLAY TILE							
3251- --	Total		(NA)	(X)	(X)	715.3	(X)	(X) / 471.3
32511 --	Brick, except ceramic glazed and refractory		(NA)	(X)	(X)	671.8	(X)	(X) / 431.4
32511 11	Building or common, and face (2-1/4 in. x 3-5/8 in. x 7-5/8 in. equivalent):							
	As reported in census of manufactures		154	(X)	(X)	652.7	8,634.4	8,828.8 / 426.6
	As reported in Current Industrial Reports M32D, Clay Construction Products	Million bricks.	(NA)	8,299.4	8,663.0	659.1	8,282.0	8,402.2 / 403.8
32511 19	Other brick (paving, floor, and sewer)		11	(X)	(X)	6.5	10.0	10.1 / .8
32511 00	Brick, except ceramic glaze and refractory, n.s.k		(NA)	(X)	(X)	12.6	(X)	(X) / 4.0
32512 --	Glazed brick, structural hollow and facing tile:							
	As reported in census of manufactures		8	(X)	(X)	11.8	(X)	(X) / 18.5
	As reported in Current Industrial Reports M32D, Clay Construction Products		(NA)	(X)	(X)	12.2	(X)	(X) / 16.3
32512 11	Structural clay tile, except facing, including load-bearing and nonload-bearing tile, silo tile, corncrib tile, structural floor tile, etc	1,000 s. tons	(NA)	43.7	44.6	2.2	80.8	100.5 / 3.1
	Facing tile (structural) and ceramic glazed brick:							
32512 31	Ceramic glazed facing tile and ceramic glazed brick (2-1/4 in. x 3-5/8 in. x 7-5/8 in. equivalent)	Million bricks.	(NA)	58.4	59.4	10.0	124.0	129.5 / 12.9
32512 51	Unglazed and salt glazed facing tile (8 in. x 5 in. x 12 in. equivalent)	Million tiles.					1.1	1.3 / .3

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity[2]	Product shipments[1] Value (million dollars)	Quantity of production for all purposes	Product shipments Quantity	Product shipments Value (million dollars)
	BRICK AND STRUCTURAL CLAY TILE--Con.								
32510 00	Brick and structural clay tile, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	(X)	14.9	(X)	(X)	15.7
32510 02	Brick and structural clay tile, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	(X)	16.8	(X)	(X)	5.7
	CERAMIC WALL AND FLOOR TILE								
3253- --	Total	.....	(NA)	(X)	(X)	222.4	(X)	(X)	157.9
32530 --	Clay floor and wall tile, including quarry tile:								
	Ceramic mosaic tile and accessories (tiles with a facial area of less than 6 square inches):								
32530 13	Glazed[3]	Mil. sq. ft...							
32530 53	Unglazed[3]		10	(X)	(X)	28.9	(X)	(X)	22.9
	As reported in census of manufactures								
	As reported in Current Industrial Reports M32D, Clay Construction Products		(NA)	r25.5	r25.3	r24.2	27.5	27.2	17.6
32530 71	Quarry tile and promenade tile:								
	As reported in census of manufactures		9	(X)	(X)	34.1	(X)	(X)	16.3
	As reported in Current Industrial Reports M32D, Clay Construction Products		(NA)	r40.6	r41.7	r33.5	27.7	31.6	16.2
32530 15	Other glazed floor and wall tile and accessories:								
	As reported in census of manufactures		21	(X)	(X)	148.5	(X)	(X)	110.7
	As reported in Current Industrial Reports M32D, Clay construction Products		(NA)	208.6	198.0	156.6	256.0	249.1	125.3
32530 55	Other unglazed floor and wall tile and accessories	Mil. sq. ft...	4	(X)	(X)	1.6	(X)	(X)	1.6
32530 00	Ceramic wall and floor tile, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	(X)	5.6	(X)	(X)	5.7
32530 02	Ceramic wall and floor tile, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	(X)	3.8	(X)	(X)	.7

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1] Quantity[2]	Product shipments[1] Value (million dollars)	Product shipments Quantity	Product shipments Value (million dollars)
	CLAY REFRACTORIES						
3255- --	Total	.....	(NA)	(X)	540.1	(X)	302.2
32550 --	Clay refractories:						
	As reported in census of manufactures	.....	97	(X)	532.6	(X)	302.2
	As reported in Current Industrial Reports MQ-32C, Refractories	.....	(X)	(X)	515.4	(X)	283.5
	Brick and shapes:						
32550 11	Fireclay including semisilica brick and shapes, except superduty	1,000,000 inch equivalent.	(NA)	183.7	79.1	214.5	49.5
32550 45	Glass house pots, tank blocks, feeder parts, and upper structure shapes used only for glass tanks		(NA)				
32550 15	Superduty fireclay brick and shapes	1,000,000 inch equivalent.	(NA)	54.3	38.9	67.8	24.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CLAY REFRACTORIES--Con.						
	Clay refractories--Con.						
	As reported in Current Industrial Reports MQ-32C, Refractories--Con.						
	Brick and shapes--Con.						
32550 21	High alumina brick and shapes (50% Al_2O_3 and over) made substantially of calcined diaspore of bauxite	1,000,000 inch equivalent.	(NA)	74.3	90.8	75.8	51.8
32550 31	Ladle brick		(NA)	205.4	48.9	207.4	32.2
32550 35	High alumina ladle brick		(NA)				
32550 41	Sleeves, nozzles, runner brick, and tuyeres		(NA)	40.2	25.0	55.0	18.6
	Insulating fire brick and shapes:						
32550 26	1600°F to 1999°F		(NA)	10.4	4.4	1.3	.3
32550 27	2000°F to 2299°F		(NA)			10.6	2.7
32550 23	2300°F to 2799°F		(NA)	28.4	15.5	26.4	8.4
32550 24	2800°F and higher	1,000,000 inch equivalent.	(NA)	7.1	6.3	6.4	3.4
32550 47	Hot top refractories	1,000 s. tons.	(NA)	45.1	6.5	83.8	6.8
32550 49	Clay kiln furniture, radiant heater elements, potters' supplies, and other miscellaneous shaped refractory items		(NA)	(S)	17.8	(S)	11.9
32550 53	Refractory bonding mortars, up to 60% Al_2O_3, dry basis by analysis, wet and dry types		(NA)	80.0	17.7	75.6	12.6
32550 61	Plastic refractories and ramming mixes		(NA)	185.3	28.1	174.4	18.2
32550 63	High alumina plastic refractories and ramming mixes containing over 50% to 87.5% Al_2O_3		(NA)	87.2	28.9		
	Castable refractories (hydraulic setting):						
32550 65	Clay		(NA)	163.7	32.9	237.2	32.1
32550 67	High alumina castable refractories (hydraulic setting) containing over 50% to 87.5% Al_2O_3		(NA)	65.9	17.7		
32550 69	Insulating		(NA)	51.8	15.0		
32550 71	Fireclay gunning mixes		(NA)	65.3	12.6	368.7	10.1
32550 75	High alumina gunning mixes		(NA)				
32550 94	Other clay refractory materials sold in lump or ground form (shipments for direct use as finished refractory products and exported material)		(NA)	322.7	27.0		
32550 96	Other clay refractory materials sold in lump or ground form (all other domestic shipments)	1,000 s. tons.	(NA)	59.6	2.2		
32550 02	Clay refractories, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	7.5	(X)	(NA)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[2]	Value (million dollars)		Quantity	Value (million dollars)
	STRUCTURAL CLAY PRODUCTS, N.E.C.								
3259- --	Total	.....	(NA)	(X)	(X)	204.3	(X)	(X)	169.3
32591 11	Vitrified clay sewer pipe and fittings:								
	As reported in census of manufactures	.....	20	(X)	(X)	133.6	1,766.6	1,711.1	134.7
	As reported in Current Industrial Reports M32D, Clay Construction Products	1,000 s. tons.	(NA)	1,061.6	1,085.9	137.5	1,770.5	1,718.0	143.1
32592 --	Other structural clay products, n.e.c	.....	50	(X)	(X)	63.0	(X)	(X)	28.8
32592 98	Other structural clay products such as terra cotta (architectural), drain tile, flue tile, roofing tile, conduit, chimney pipe, tops and thimbles, wall coping, and adobe brick	.....	50	(X)	(X)	63.0	(X)	(X)	28.8
32590 00	Structural clay products, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	3.3	(X)	(X)	4.3
32590 02	Structural clay products, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	4.4	(X)	(X)	1.5

Footnotes are on next page.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. [r]Revised.
(S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: *indicates 10 to 19 percent estimated, **indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]In 1977 and 1972, product codes 32530 13 and 32530 53 were combined to avoid disclosing operations of individual companies.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
32511, BRICK, EXCEPT CERAMIC GLAZED AND REFRACTORY		
United States	671.8	431.4
Middle Atlantic Division:		
New York	7.0	5.8
Pennsylvania	38.3	29.6
East North Central Division:		
Ohio	59.5	38.1
Indiana	14.1	CC
Illinois	10.9	11.7
West North Central Division:		
Missouri	6.5	4.3
Kansas	8.1	5.7
South Atlantic Division:		
Maryland	9.1	8.4
Virginia	28.8	17.8
North Carolina	72.0	46.5
South Carolina	34.9	29.3
Georgia	50.5	(NA)
East South Central Division:		
Kentucky	12.8	CC
Alabama	35.2	11.7
Mississippi	31.2	EE
West South Central Division:		
Louisiana	4.7	4.4
Oklahoma	16.8	5.1
Texas	71.1	33.1
32511, BRICK, EXCEPT CERAMIC GLAZED AND REFRACTORY--Con.		
Mountain Division:		
Colorado	18.7	(NA)
Pacific Division:		
California	23.5	12.0
32591, VITRIFIED CLAY SEWER PIPE AND FITTINGS		
United States	133.6	(NA)
East North Central Division:		
Ohio	26.3	(NA)
Pacific Division:		
California	29.7	(NA)
32592, OTHER STRUCTURAL CLAY PRODUCTS, N.E.C.		
United States	63.0	(NA)
Middle Atlantic Division:		
Pennsylvania	4.0	(NA)
East North Central Division:		
Ohio	15.9	(NA)
Illinois	4.3	(NA)
West North Central Division:		
Iowa	5.3	(NA)
Pacific Division:		
California	14.4	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
32410	Cement, hydraulic	2,971.0	2,555.6	2,294.8	2,211.4	1,963.9	1,770.0	1,221.7	1,630.0
3251-	Brick and structural clay tile	715.3	538.3	449.2	397.1	483.2	471.3	343.9	308.1
32511	Brick, except ceramic glazed and refractory	671.8	490.7	402.4	376.9	450.2	431.4	298.1	263.6
32512	Glazed brick, structural hollow and facing tile	11.8	31.3	(38.5)	(16.1)	15.4	18.5	29.3	35.9
32510	Brick and structural clay tile, n.s.k.	31.7	(16.3)	8.3	(4.1)	17.6	21.4	16.5	8.7
32530	Clay floor and wall tile (including quarry tile)	222.4	214.7	191.5	186.8	170.2	157.9	134.8	143.4
32550	Clay refractories	540.1	498.0	472.1	456.4	364.1	302.2	235.3	180.7
3259-	Structural clay products, n.e.c.	204.3	174.3	169.8	183.5	185.1	169.3	137.1	141.4
32591	Vitrified clay sewer pipe and fittings	133.6	118.9	119.1	128.9	131.7	134.7	93.0	98.2
32592	Other structural clay products, n.e.c.	63.0	(66.3)	(65.0)	(54.6)	(48.4)	28.8	39.7	39.9
32590	Structural clay products, n.e.c., n.s.k.	7.7	([2])	([2])	-	(5.0)	5.8	4.4	3.3

- Represents zero. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3241, CEMENT, HYDRAULIC					
	Materials, parts, containers, and supplies	.....	(X)	532.7	(X)	349.2
264338	Paper shipping sacks and multiwall bags	1,000 s. tons...	(S)	29.2	(S)	21.2
263112	Paperboard liners		(X)	([2])	(X)	([3])
320591	Refractories, clay and nonclay		(S)	30.4	83.8	18.5
329511	Nonmetallic minerals and earths, ground or otherwise treated, including granulated slag and gypsum		(X)	100.5	(X)	([3])
142011	Crushed and broken stone, including cement rock, limestone, etc	1,000 s. tons...	(S)	72.9	(S)	79.7
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[2]286.8	(X)	[3]210.6
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	12.9	(X)	19.2

1977 material code	Material	Unit of measure	1977, quantity[1]	1977, delivered cost (million dollars)
	INDUSTRY 3251, BRICK AND STRUCTURAL CLAY TILE[5]			
	Materials, parts, containers, and supplies	.....	(X)	128.0
145001	Clay, ceramic, and refractory minerals, including kaolin and ball clay	1,000 s. tons..	**9,894.4	19.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	97.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	12.0
	INDUSTRY 3253, CERAMIC WALL AND FLOOR TILE[5]			
	Materials, parts, containers, and supplies	.....	(X)	54.2
145001	Clay, ceramic, and refractory minerals, including kaolin and ball clay	1,000 s. tons..	*586.4	20.2
970099	All other materials and components, parts, containers, and supplies	.....	(X)	23.9
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	10.1
	INDUSTRY 3255, CLAY REFRACTORIES[5]			
	Materials, parts, containers, and supplies	.....	(X)	221.6
145001	Clay, ceramic, and refractory minerals	1,000 s. tons..	*2,016.4	86.4
329502	Dead-burned magnesia or magnesite		(NA)	([6])
320591	Refractories, clay or nonclay	1,000 s. tons..	**1,234.0	48.3
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[6]59.1
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	27.8
	INDUSTRY 3259, STRUCTURAL CLAY PRODUCTS, N.E.C.[5]			
	Materials, parts, containers, and supplies	.....	(X)	45.2
145001	Clay, ceramic, and refractory minerals, including kaolin and ball clay	1,000 s. tons..	1,483.6	7.6
970099	All other materials and components, parts, containers, and supplies	.....	(X)	37.6

(NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when precentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * inidcates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1977, material code 263112 was included with material code 970099.

[3]For 1972, material code 263112 and 329511 were included with material code 970099.

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]Materials consumed by kind data were not collected for 1972.

[6]Material code 329502 was included with material code 970099.

Pottery and Related Products

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DESCRIPTION OF INDUSTRIES

POTTERY AND RELATED PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3261	Vitreous Plumbing Fixtures
3262	Vitreous China Food Utensils
3263	Fine Earthenware Food Utensils
3264	Porcelain Electrical Supplies
3269	Pottery Products, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishments as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3261, VITREOUS PLUMBING FIXTURES

This industry comprises establishments primarily engaged in the manufacture of china plumbing fixtures and china and earthenware fittings and bathroom accessories.

The total value of shipments for establishments classified in the Vitreous Plumbing Fixtures industry amounted to $411 million in 1977, an increase of 52 percent from 1972. The value of shipments of products classified as primary to the industry was $368 million, an increase of 48 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $277 million in 1977, was 48 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 9.2 thousand employees, a decrease of 4 percent from 1972. The leading States in employment were Ohio, Texas, Pennsylvania, and South Carolina, accounting for approximately 50 percent of the industry's 1977 employment. Data for South Carolina have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3262, VITREOUS CHINA FOOD UTENSILS

This industry comprises establishments primarily engaged in the manufacture of vitreous china table and kitchen articles for use in households and in hotels, restaurants, and other commercial institutions for preparing, serving, or storing food or drink. Establishments primarily engaged in the manufacture of (semi-vitreous) types of earthenware (whiteware) table and kitchen articles are classified in industry 3263.

The total value of shipments for establishments classified in the Vitreous China Food Utensils industry amounted to $171 million in 1977, an increase of 108 percent from 1972. The value of shipments of products classified as primary to the industry was $141 million, an increase of 72 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were hotel or commercial tableware for which shipments increased 89 percent. Value added by manufacture, at $140 million in 1977, was 108 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.3 thousand employees, an increase of 24 percent from 1972. The leading States in employment were Pennsylvania, West Virginia, New York, and New Jersey, accounting for approximately 85 percent of the industry's 1977 employment. Data for these States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3263, FINE EARTHENWARE FOOD UTENSILS

This industry comprises establishments primarily engaged in the manufacture of fine (semivitreous) types of earthenware table and kitchen articles for preparing, serving, or storing food and drink. Establishments primarily engaged in the manufacture of vitreous china table and kitchen articles are classified in industry 3262.

The total value of shipments for establishments classified in the Fine Earthenware Food Utensils industry amounted to $81 million in 1977, an increase of 9 percent from 1972. The value of shipments of products classified as primary to the industry was $91 million, an increase of 56 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $61 million in 1977, was 9 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 4.7 thousand employees, a decrease of 31 percent from 1972. The leading States in employment were Ohio and California, accounting for approximately 70 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3264, PORCELAIN ELECTRICAL SUPPLIES

This industry comprises establishments primarily engaged in the manufacture of porcelain electrical insulators, molded porcelain parts for electrical devices, spark plug and steatitic porcelain, and other electrical supplies from clay and other ceramic materials.

The total value of shipments for establishments classified in the Porcelain Electrical Supplies industry amounted to $368 million in 1977, an increase of 34 percent from 1972. The value of shipments of products classified as primary to the industry was $379 million, an increase of 46 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $254 million in 1977, was 33 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 11.4 thousand employees, a decrease of 15 percent from 1972. The leading States in employment were New York, Colorado, Ohio, and Michigan, accounting for approximately 50 percent of the industry's 1977 employment. Data for Colorado and Michigan have been withheld to avoid disclosing operations of individual companies. However, establishments counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3269, POTTERY PRODUCTS, N.E.C.

This industry comprises establishments primarily engaged in firing and decorating white china and earthenware for the trade and the manufacture of art and ornamental pottery, industrial and laboratory pottery, stoneware and coarse earthenware table and kitchen articles, unglazed red earthenware florists' articles, and other pottery products, not elsewhere classified.

The total value of shipments for establishments classified in the Pottery Products, N.E.C. industry amounted to $230 million in 1977, an increase of 72 percent from 1972. The value of shipments of products classified as primary to the industry was $241 million, an increase of 64 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $161 million in 1977, was 61 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.6 thousand employees, an increase of 16 percent from 1972. The leading States in employment were California, Ohio, Illinois, and New Jersey, accounting for approximately 65 percent of the industry's 1977 employment. Data for Illinois have been withheld to avoid

disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 19 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3261, VITREOUS PLUMBING FIXTURES																
1977 Census--	54	70	38	9.2	117.2	7.8	15.6	96.9	277.3	132.9	411.4	7.3	(NA)	48.9	92	95
1976 ASM----	(NA)	(NA)	(NA)	9.2	107.6	7.7	14.9	86.4	231.6	117.6	343.7	8.9	161.1	52.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.3	90.3	6.8	13.1	72.2	199.2	101.0	295.4	9.4	153.6	47.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.5	107.2	8.9	17.2	87.0	241.2	112.6	347.6	15.5	145.0	45.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	10.7	95.3	9.1	17.4	78.8	195.0	105.8	302.2	13.4	140.5	34.6	(NA)	(NA)
1972 Census--	43	59	40	9.6	86.5	8.3	16.5	72.5	186.8	84.5	270.0	5.8	127.4	31.3	90	92
1971 ASM----	(NA)	(NA)	(NA)	9.0	75.1	7.8	15.2	61.8	148.2	84.8	234.6	5.2	117.6	29.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.0	67.9	7.6	15.0	55.1	142.1	71.5	209.7	11.6	120.9	31.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	9.6	73.2	8.1	16.3	60.0	156.5	73.9	229.2	10.0	109.8	27.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	9.0	65.1	7.7	15.4	53.4	135.7	68.0	205.3	4.5	100.7	25.5	(NA)	(NA)
1967 Census--	34	51	40	8.4	56.5	7.0	13.8	45.7	111.4	58.5	170.0	2.6	96.9	26.6	95	96
1966 ASM----	(NA)	(NA)	(NA)	9.2	60.0	7.6	15.2	48.2	117.8	61.6	180.7	5.2	(NA)	26.6	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	9.0	56.0	7.5	14.6	45.2	112.0	61.1	173.6	3.0	(NA)	27.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	9.1	57.3	7.6	15.2	46.7	110.1	56.9	166.1	3.1	101.8	28.1	(NA)	(NA)
1963 Census--	34	49	43	9.3	56.8	7.9	25.5	46.6	101.5	55.7	155.7	2.4	99.1	26.8	97	97
INDUSTRY 3262, VITREOUS CHINA FOOD UTENSILS																
1977 Census--	27	28	14	7.3	72.3	6.0	11.1	53.6	140.0	34.1	170.7	5.4	(NA)	30.0	[7]80	97
1976 ASM----	(NA)	(NA)	(NA)	6.7	62.5	5.4	10.2	48.9	111.2	27.5	137.5	4.0	56.3	24.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	5.4	49.0	4.3	7.9	36.2	88.7	19.8	107.0	3.5	40.9	17.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	6.1	51.2	5.0	9.4	37.9	86.7	19.6	105.2	4.8	38.2	16.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	5.6	42.3	4.6	8.7	30.0	81.0	14.6	95.5	2.2	31.9	13.1	(NA)	(NA)
1972 Census--	32	34	20	5.9	41.2	4.9	9.3	29.3	67.4	13.7	81.9	1.8	30.3	14.0	[7]85	88
1971 ASM----	(NA)	(NA)	(NA)	5.6	35.2	4.5	8.2	24.3	60.3	13.0	73.6	3.0	33.8	16.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	6.1	35.1	5.1	9.1	24.5	62.5	13.1	75.9	2.6	33.5	16.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	7.3	39.3	6.2	11.4	30.3	66.8	13.6	79.5	2.9	35.9	16.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	6.9	37.5	5.9	11.1	29.2	57.1	11.8	68.9	1.6	36.4	15.2	(NA)	(NA)
1967 Census--	35	39	28	7.0	36.1	6.0	11.2	27.3	55.8	12.7	67.2	1.9	36.0	15.2	[7]90	89
1966 ASM----	(NA)	(NA)	(NA)	6.6	33.5	5.6	10.5	24.9	50.1	10.4	60.0	1.3	(NA)	13.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	6.5	32.4	5.5	10.5	24.2	47.9	9.8	57.2	3.0	(NA)	12.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	6.4	31.4	5.3	10.1	23.0	45.2	9.8	54.7	0.6	29.1	12.3	(NA)	(NA)
1963 Census--	26	31	21	6.3	29.6	5.3	9.8	21.8	42.5	8.9	51.0	0.7	28.8	11.9	90	90
INDUSTRY 3263, FINE EARTHENWARE FOOD UTENSILS																
1977 Census--	22	23	17	4.7	38.4	3.5	6.4	27.1	61.2	21.7	81.3	1.7	(NA)	17.2	[7]85	76
1976 ASM[5]---	(NA)	(NA)	(NA)	4.1	32.8	3.3	6.0	22.9	52.9	19.6	73.2	1.5	33.0	14.8	(NA)	(NA)
1975 ASM[6]---	(NA)	(NA)	(NA)	6.2	45.6	5.1	9.4	33.3	74.5	26.7	101.2	2.4	47.3	23.2	(NA)	(NA)
1974 ASM[6]---	(NA)	(NA)	(NA)	7.0	47.3	5.9	10.6	35.0	65.9	30.7	96.3	2.5	48.1	22.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	6.8	42.5	5.8	10.7	32.8	64.0	22.2	84.6	1.6	40.5	20.3	(NA)	(NA)
1972 Census--	17	18	15	6.8	41.4	5.7	10.8	30.8	56.2	18.1	74.3	3.1	38.4	18.2	70	97
1971 ASM----	(NA)	(NA)	(NA)	6.4	37.3	5.3	9.9	28.3	52.0	16.0	66.5	1.3	30.8	17.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	5.9	29.1	5.3	9.4	24.6	36.3	11.6	48.7	0.5	21.0	11.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	6.3	31.5	5.7	11.3	27.1	41.4	14.0	54.8	0.6	21.5	12.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	6.8	32.0	6.0	11.7	27.6	42.0	14.9	56.4	0.7	20.7	10.9	(NA)	(NA)
1967 Census--	20	21	17	5.9	27.5	5.3	9.8	22.6	34.6	12.4	47.1	1.0	20.0	10.1	86	86
1966 ASM----	(NA)	(NA)	(NA)	6.3	27.4	5.6	10.2	22.2	34.1	13.7	47.6	1.0	(NA)	10.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	6.4	28.2	5.8	10.7	22.9	37.2	14.5	52.3	0.9	(NA)	10.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	7.5	32.3	6.7	12.5	26.8	44.5	19.0	62.2	1.1	24.8	11.1	(NA)	(NA)
1963 Census--	20	21	18	7.3	31.6	6.6	12.3	26.4	41.0	17.9	59.0	0.8	24.1	9.7	92	91
INDUSTRY 3264, PORCELAIN ELECTRICAL SUPPLIES																
1977 Census--	77	86	56	11.4	144.4	9.1	17.6	98.0	253.9	117.5	367.5	20.9	(NA)	59.3	86	82
1976 ASM----	(NA)	(NA)	(NA)	11.3	128.7	8.9	16.8	88.4	240.2	109.0	349.2	8.6	209.2	57.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	11.7	125.0	8.8	17.3	85.4	226.6	116.1	342.7	16.7	208.2	61.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	15.6	146.1	12.7	24.7	110.6	269.9	125.2	387.2	14.7	198.6	70.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	14.2	128.6	11.8	23.1	97.9	221.0	105.0	324.5	8.4	191.9	48.9	(NA)	(NA)
1972 Census--	74	83	64	13.4	114.0	10.9	21.9	85.4	190.4	85.5	274.6	7.2	187.4	44.2	91	95
1971 ASM----	(NA)	(NA)	(NA)	11.4	90.4	9.2	17.6	66.8	149.7	70.3	218.4	13.0	149.9	35.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	12.1	92.5	10.0	19.8	68.7	149.7	70.5	220.1	10.7	143.6	36.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	14.4	104.6	11.7	23.8	77.5	182.1	89.0	268.9	24.7	159.5	43.4	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	11.9	80.8	9.6	18.9	59.9	137.1	64.2	200.2	11.3	124.3	31.6	(NA)	(NA)
1967 Census--	65	(NA)	50	13.4	89.9	11.0	22.2	67.5	153.5	76.0	225.0	21.4	127.4	35.6	85	98
1966 ASM----	(NA)	(NA)	(NA)	12.1	76.0	10.0	20.3	57.7	139.1	60.7	197.1	11.4	(NA)	26.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	10.7	66.0	8.8	18.0	49.5	114.0	53.6	165.9	7.7	(NA)	22.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	9.9	59.4	8.0	16.3	43.2	94.6	43.6	139.0	7.6	77.8	19.1	(NA)	(NA)
1963 Census--	74	79	49	10.2	57.4	8.0	15.9	41.1	90.0	41.8	131.8	4.1	71.1	19.6	91	95

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3269, POTTERY PRODUCTS, N.E.C.															
1977 Census--	712	727	116	10.6	87.4	9.2	17.1	66.2	161.1	70.7	229.9	9.8	(NA)	26.7	95	85
1976 ASM[5] ---	(NA)	(NA)	(NA)	13.8	95.4	11.8	21.6	73.1	165.6	96.9	260.9	39.8	104.7	28.7	(NA)	(NA)
1975 ASM[6] ---	(NA)	(NA)	(NA)	12.4	79.4	10.5	19.4	59.4	143.6	75.1	217.4	12.3	67.5	25.4	(NA)	(NA)
1974 ASM[5] ---	(NA)	(NA)	(NA)	10.9	67.2	9.1	16.8	50.7	117.3	62.8	179.0	7.6	56.9	21.1	(NA)	(NA)
1973 ASM[6] ---	(NA)	(NA)	(NA)	10.1	58.9	8.6	16.4	42.7	115.3	39.0	154.3	4.4	51.0	16.5	(NA)	(NA)
1972 Census--	417	426	95	9.1	52.2	7.6	14.8	37.6	99.9	33.8	134.0	5.2	48.5	14.0	97	84
1971 ASM----	(NA)	(NA)	(NA)	10.0	50.5	8.7	16.2	38.6	91.7	33.5	124.7	2.8	47.5	15.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.6	44.9	8.5	16.2	34.6	81.6	30.3	111.7	3.0	46.4	14.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	8.4	41.8	7.1	13.5	30.4	73.5	35.7	108.8	4.1	54.5	10.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	7.7	36.4	6.6	12.6	26.7	64.7	31.6	96.4	2.2	[5]60.8	10.9	(NA)	(NA)
1967 Census--	424	434	96	7.9	37.0	6.7	13.1	27.0	63.4	33.7	96.1	3.0	[5]59.7	10.7	97	87
1966 ASM----	(NA)	(NA)	(NA)	9.2	41.6	7.8	16.1	30.9	73.3	38.6	110.3	7.9	(NA)	12.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	9.1	38.8	7.7	15.8	28.8	65.2	34.6	99.0	2.6	(NA)	11.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	8.9	39.8	7.2	15.3	28.9	67.4	35.1	101.1	2.5	[5]52.4	11.3	(NA)	(NA)
1963 Census--	449	458	98	9.1	37.5	7.5	14.9	27.8	62.1	34.1	95.5	3.1	[5]50.5	9.9	87	89

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3261, VITREOUS PLUMBING FIXTURES											
1977 Census--	12 719	(NA)	84	1 995	6.23	32	60	(NA)	30 093	42	17.82
1976 ASM----	11 695	17 510	83	1 935	5.79	34	65	46	25 173	46	15.54
1975 ASM----	10 879	18 506	81	1 926	5.51	34	64	51	24 000	45	15.20
1974 ASM----	10 209	13 809	84	1 932	5.05	32	63	41	22 971	44	14.02
1973 ASM----	8 906	13 130	85	1 912	4.52	35	66	46	18 224	48	11.20
1972 Census--	9 010	13 270	86	1 987	4.39	31	63	47	19 458	46	11.32
1971 ASM----	8 344	13 066	86	1 948	4.06	36	68	50	16 466	50	9.75
1970 ASM----	7 544	13 433	84	1 973	3.67	34	66	57	15 788	47	9.47
1969 ASM----	7 625	11 437	84	2 012	3.68	32	64	47	16 302	46	9.60
1968 ASM----	7 233	11 188	85	2 000	3.46	33	64	49	15 077	47	8.81
1967 Census--	6 726	11 511	83	1 971	3.31	34	67	56	13 261	50	8.07
1966 ASM----	6 521	(NA)	82	2 000	3.17	34	67	(NA)	12 804	50	7.75
1965 ASM----	6 222	(NA)	83	1 946	3.09	35	67	(NA)	12 444	50	7.67
1964 ASM----	6 296	11 186	83	2 000	3.07	34	68	61	12 098	52	7.24
1963 Census--	6 107	10 655	84	3 227	1.82	35	72	63	10 913	55	3.98
INDUSTRY 3262, VITREOUS CHINA FOOD UTENSILS											
1977 Census--	9 875	(NA)	82	1 838	4.82	19	62	(NA)	19 130	51	12.60
1976 ASM----	9 328	8 402	80	1 888	4.79	20	65	40	16 597	56	10.90
1975 ASM----	9 074	7 574	79	1 837	4.58	18	64	38	16 425	55	11.22
1974 ASM----	8 393	6 262	81	1 880	4.03	18	67	36	14 213	59	9.22
1973 ASM----	7 553	5 696	82	1 891	3.44	15	59	33	14 464	52	9.31
1972 Census--	6 983	5 135	83	1 897	3.15	16	67	36	11 423	61	7.24
1971 ASM----	6 285	6 035	80	1 822	2.96	17	65	45	10 767	58	7.35
1970 ASM----	5 754	5 491	83	1 784	2.69	17	63	44	10 245	56	6.86
1969 ASM----	5 383	4 917	84	1 838	2.65	17	66	45	9 150	58	5.85
1968 ASM----	5 434	5 275	85	1 881	2.63	17	71	52	8 275	65	5.14
1967 Census--	5 157	5 142	85	1 866	2.43	18	72	53	7 971	64	4.98
1966 ASM----	5 075	(NA)	84	1 875	2.37	17	73	(NA)	7 590	66	4.77
1965 ASM----	4 984	(NA)	84	1 909	2.30	17	73	(NA)	7 369	67	4.56
1964 ASM----	4 906	4 546	82	1 905	2.27	17	75	53	7 062	69	4.47
1963 Census--	4 698	4 571	84	1 849	2.22	17	75	56	6 746	69	4.33
INDUSTRY 3263, FINE EARTHENWARE FOOD UTENSILS											
1977 Census--	8 194	(NA)	75	1 818	4.23	26	73	(NA)	13 074	62	9.56
1976 ASM----	8 000	8 048	80	1 818	3.81	26	71	45	12 902	62	8.81
1975 ASM----	7 354	7 629	82	1 843	3.54	26	71	46	12 016	61	7.92
1974 ASM----	6 757	6 871	84	1 796	3.30	31	80	49	9 414	71	6.21
1973 ASM----	6 250	5 955	85	1 844	3.06	26	76	47	9 411	66	5.98
1972 Census--	6 088	5 647	83	1 894	2.85	24	80	51	8 264	73	5.20
1971 ASM----	5 828	4 812	82	1 867	2.85	24	80	46	8 125	71	5.25
1970 ASM----	4 932	3 559	89	1 773	2.61	23	83	43	6 152	80	3.86
1969 ASM----	5 000	3 412	90	1 982	2.39	25	83	39	6 571	76	3.66
1968 ASM----	4 705	3 044	88	1 950	2.35	26	83	36	6 176	76	3.58
1967 Census--	4 661	3 389	89	1 849	2.30	26	84	42	5 864	79	3.53
1966 ASM----	4 349	(NA)	88	1 821	2.17	28	86	(NA)	5 412	80	3.34
1965 ASM----	4 406	(NA)	90	1 844	2.14	27	81	(NA)	5 812	75	3.47
1964 ASM----	4 306	3 306	89	1 865	2.14	30	82	39	5 933	72	3.56
1963 Census--	4 328	3 301	90	1 863	2.14	30	83	40	5 616	77	3.33
INDUSTRY 3264, PORCELAIN ELECTRICAL SUPPLIES											
1977 Census--	12 661	(NA)	79	1 945	5.55	31	71	(NA)	22 267	56	14.40
1976 ASM----	11 389	18 513	78	1 887	5.26	31	68	59	21 256	53	14.29
1975 ASM----	10 683	17 794	75	1 965	4.93	33	70	60	19 367	55	13.09
1974 ASM----	9 365	12 730	81	1 944	4.47	32	70	51	17 301	54	10.92
1973 ASM----	9 056	13 514	83	1 957	4.23	32	71	59	15 563	58	9.56
1972 Census--	8 507	13 985	81	2 009	3.89	31	72	68	14 208	59	8.69
1971 ASM----	7 929	13 149	80	1 913	3.79	32	73	68	13 131	60	8.50
1970 ASM----	7 644	11 867	82	1 980	3.46	32	74	65	12 371	61	7.56
1969 ASM----	7 263	11 076	81	2 034	3.25	33	71	59	12 645	57	7.65
1968 ASM----	6 789	10 445	80	1 968	3.16	32	72	62	11 521	58	7.25
1967 Census--	6 708	9 507	82	2 018	3.04	33	73	56	11 455	58	6.91
1966 ASM----	6 280	(NA)	82	2 030	2.84	30	69	(NA)	11 495	54	6.85
1965 ASM----	6 168	(NA)	82	2 045	2.75	32	72	(NA)	10 654	57	6.33
1964 ASM----	6 000	7 858	80	2 037	2.65	31	74	55	9 555	62	5.80
1963 Census--	5 627	6 970	78	1 987	2.58	31	75	53	8 823	63	5.66

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3269, POTTERY PRODUCTS, N.E.C.										
1977 Census--	8 247	(NA)	86	1 858	3.88	30	68	(NA)	15 204	54	9.44
1976 ASM----	6 913	7 586	85	1 830	3.38	37	73	40	12 000	57	7.66
1975 ASM----	6 403	5 443	84	1 847	3.06	34	71	31	11 580	55	7.40
1974 ASM----	6 165	5 220	83	1 846	3.01	35	72	31	10 761	57	6.98
1973 ASM----	5 831	5 049	85	1 906	2.60	25	63	33	11 415	51	7.03
1972 Census--	5 736	5 329	83	1 947	2.54	25	64	36	10 978	52	6.75
1971 ASM----	5 050	4 750	87	1 862	2.38	26	67	38	9 170	55	5.66
1970 ASM----	4 677	4 833	88	1 905	2.13	27	67	41	8 500	55	5.03
1969 ASM----	4 976	6 488	84	1 901	2.25	32	71	50	8 750	56	5.44
1968 ASM----	4 727	7 896	85	1 909	2.11	32	70	63	8 402	56	5.13
1967 Census--	4 683	7 556	84	1 955	2.06	35	73	62	8 025	58	4.83
1966 ASM----	4 521	(NA)	84	2 064	1.91	34	72	(NA)	7 967	56	4.55
1965 ASM----	4 263	(NA)	84	2 051	1.82	34	74	(NA)	7 164	59	4.12
1964 ASM----	4 471	5 887	80	2 125	1.88	34	74	51	7 573	59	4.40
1963 Census--	4 120	5 549	82	1 986	1.86	35	74	52	6 824	60	4.16

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3261, VITREOUS PLUMBING FIXTURES													
United States	-	70	38	9.2	117.2	7.8	15.6	96.9	277.3	132.9	411.4	7.3	9.6	186.8
New England Division:													
Connecticut	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:													
New Jersey	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	14.2
Pennsylvania	-	6	3	1.0	12.0	0.8	1.6	10.0	27.3	10.0	37.3	(D)	(NA)	(D)
East North Central Division:													
Ohio	-	7	5	1.6	21.2	1.3	2.6	15.8	54.8	25.2	79.5	1.6	(NA)	(D)
Indiana	-	4	3	0.5	5.7	0.4	0.8	4.9	11.8	8.8	20.8	(D)	0.5	8.8
Illinois	-	5	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:													
South Carolina	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:													
Kentucky	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:													
Louisiana	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	7	5	1.2	11.2	1.0	1.9	9.1	23.4	14.4	36.8	1.6	(NA)	(D)
Pacific Division:													
California	-	13	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3262, VITREOUS CHINA FOOD UTENSILS													
United States	-	28	14	7.3	72.3	6.0	11.1	53.6	140.0	34.1	170.7	5.4	5.9	67.4
Middle Atlantic Division:													
New York	-	4	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	E1	6	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:													
Ohio	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:													
West Virginia	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
INDUSTRY 3263, FINE EARTHENWARE FOOD UTENSILS													
United States	-	23	17	4.7	38.4	3.5	5.4	27.1	61.2	21.7	81.3	1.7	6.8	56.2
East North Central Division:													
Ohio	-	6	6	1.9	14.5	1.7	3.0	12.3	24.8	8.7	33.2	(D)	(NA)	(D)
Illinois	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Michigan	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:													
California	-	4	4	1.5	12.7	0.7	1.4	5.9	20.5	6.2	25.3	0.5	(NA)	(D)
INDUSTRY 3264, PORCELAIN ELECTRICAL SUPPLIES													
United States	-	86	56	11.4	144.4	9.1	17.6	98.0	253.9	117.5	367.5	20.9	13.4	190.4
New England Division:													
Massachusetts	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:													
New York	-	7	6	1.5	19.3	0.9	1.9	10.5	33.6	20.6	52.4	(D)	1.6	29.2
New Jersey	-	15	9	0.8	9.0	0.6	1.3	6.0	17.3	6.2	23.3	0.4	1.3	15.9
Pennsylvania	-	7	6	1.2	15.6	1.0	1.9	11.1	27.9	9.2	37.4	1.8	1.4	18.7
East North Central Division:													
Ohio	-	8	6	1.3	17.3	1.0	1.8	12.9	33.8	16.7	50.6	1.5	(NA)	(D)
Illinois	-	4	1	0.3	3.3	0.3	0.6	2.9	6.9	1.9	8.5	(D)	0.3	3.2
Michigan	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:													
Maryland	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:													
Tennessee	-	5	4	0.6	4.6	0.5	0.9	3.6	9.1	4.9	13.8	(D)	(NA)	(D)
West South Central Division:													
Texas	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:													
Colorado	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:													
California	-	13	6	0.4	4.2	0.3	0.6	3.0	7.1	3.4	10.4	(D)	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3269, POTTERY PRODUCTS, N.E.C.														
United States	E1	**727**	**116**	**10.6**	**87.4**	**9.2**	**17.1**	**66.2**	**161.1**	**70.7**	**229.9**	**9.8**	**9.1**	**99.9**
Middle Atlantic Division:														
New York	E4	33	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.9
New Jersey	E1	32	12	0.9	9.4	0.8	1.5	6.6	18.7	5.6	23.9	1.3	(NA)	(D)
Pennsylvania	-	25	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	5.7
East North Central Division:														
Ohio	E1	47	18	1.8	14.0	1.6	3.0	10.7	25.9	11.7	36.8	1.2	2.0	21.7
Illinois	-	24	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	-	10	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Missouri	-	18	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	E1	10	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	E4	13	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	E1	35	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E2	189	42	3.5	27.3	3.1	5.9	21.4	44.4	20.3	63.9	4.1	2.4	21.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Vitreous plumbing fixtures (SIC 3261)	Vitreous china food utensils (SIC 3262)	Fine earthenware food utensils (SIC 3263)	Porcelain electrical supplies (SIC 3264)	Pottery products, n.e.c. (SIC 3269)
Primary product specialization ratio[1]	percent	92	[4]80	[4]85	86	95
Coverage ratio[2]	do	95	97	76	82	85
All establishments	number	70	28	23	86	727
With 1 to 19 employees	do	32	14	6	30	611
With 20 to 99 employees	do	8	4	4	25	95
With 100 employees or more	do	30	10	13	31	21
All employees, average for year	1,000	9.2	7.3	4.7	11.4	10.6
Payroll for year, all employees	mil. dol.	117.2	72.3	38.4	144.4	87.4
Production workers:						
Average for year	1,000	7.8	6.0	3.5	9.1	9.2
March	do	7.5	6.0	3.5	8.9	9.2
May	do	7.8	6.0	3.5	9.0	8.8
August	do	8.0	6.2	3.5	9.1	9.2
November	do	7.9	6.0	3.6	9.3	9.2
Hours	millions	15.6	11.1	6.4	17.6	17.1
January to March	do	3.6	2.3	1.4	4.3	4.3
April to June	do	4.1	2.9	1.7	4.4	4.2
July to September	do	3.9	2.9	1.6	4.5	4.2
October to December	do	3.9	3.0	1.7	4.4	4.3
Wages	mil. dol.	96.9	53.6	27.1	98.0	66.2
Cost of materials, etc.	do	132.9	34.1	21.7	117.5	70.7
Materials, parts, containers, etc., consumed	do	88.5	25.1	15.0	95.7	49.7
Resales	do	23.2	(D)	(D)	4.3	8.0
Fuels consumed	do	15.6	6.0	3.7	9.2	10.1
Purchased electric energy	do	5.4	1.7	1.2	6.6	2.4
Contract work	do	0.2	(D)	(D)	1.6	0.5
Value of shipments, including resales	do	411.4	170.7	81.3	367.5	229.9
Value of resales	do	34.4	(D)	(D)	5.6	11.1
Value added by manufacture	do	277.3	140.0	61.2	253.9	161.1
Manufacturers' inventories:						
Beginning of year	do	49.1	26.2	14.9	54.3	24.6
Finished products	do	25.0	11.6	8.7	13.8	12.2
Work in process	do	9.5	9.0	3.1	22.3	3.1
Materials, supplies, fuel, etc.	do	14.6	5.6	3.1	18.2	9.3
End of year	do	48.9	30.0	17.2	59.3	26.7
Finished products	do	23.3	13.5	10.4	18.2	13.8
Work in process	do	10.1	10.4	3.1	21.7	3.4
Materials, supplies, fuel, etc.	do	15.6	6.1	3.8	19.3	9.5
Capital expenditures for plant and equipment	do	7.9	5.6	1.7	21.6	10.4
New capital expenditures	do	7.3	5.4	1.7	20.9	9.8
New buildings and other structures	do	1.9	1.6	0.4	5.3	2.4
New machinery and equipment	do	5.4	3.8	1.3	15.6	7.5
Used capital expenditures	do	0.6	0.2	(Z)	0.7	0.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Vitreous plumbing fixtures (SIC 3261)		Vitreous china food utensils (SIC 3262)		Fine earthenware food utensils (SIC 3263)		Porcelain electrical supplies (SIC 3264)		Pottery products, n.e.c. (SIC 3269)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	0.8	12	1.3	1	(0.5)	34	1.3	1	(0.8)	38
Response coverage ratio[2] (percent)	69	(X)	82	(X)	50	(X)	59	(X)	80	(X)
Machinery	(3.6)	16	0.7	1	(0.9)	16	7.3	1	(2.1)	44
Response coverage ratio[2] (percent)	74	(X)	88	(X)	47	(X)	59	(X)	71	(X)
Cost of purchased communication services	(0.5)	18	0.5	1	(D)	42	(1.0)	(A)	(1.3)	43
Response coverage ratio[2] (percent)	64	(X)	88	(X)	100	(X)	59	(X)	64	(X)
Rental payments	1.9	3	0.7	1	0.6	7	(1.5)	25	(5.4)	54
Buildings and other structures	0.3	3	-	(X)	0.1	13	(0.7)	56	(4.8)	62
Machinery and equipment	1.5	3	0.6	1	0.5	13	0.8	8	(0.6)	24
Supplemental labor costs	23.9	2	17.0	1	7.2	1	30.9	2	11.7	8
Legal costs	10.9	2	7.9	1	2.9	5	12.2	2	7.1	9
Voluntary costs	12.9	2	9.1	1	4.3	5	18.7	3	(4.6)	16
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	75.6	2	16.8	1	(10.6)	17	63.8	3	(28.9)	19
New capital expenditures	1.9	4	1.5	1	(0.2)	22	5.1	4	(4.4)	27
Used capital expenditures	0.1	1	-	(X)	(Z)	(X)	-	(X)	-	(X)
Retirements	2.4	2	0.1	1	-	(X)	(0.3)	21	(0.9)	24
End of year	75.2	2	18.3	0.1	(10.8)	17	68.6	3	(32.5)	17
Machinery and equipment:										
Beginning of year	85.9	2	34.2	1	24.3	5	134.7	3	(54.9)	17
New capital expenditures	5.1	3	3.6	1	1.2	12	15.4	4	(10.7)	21
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(D)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(Z)	(A)	(D)	(A)	(D)	(A)	(Z)	(A)	-	(X)
All other[3]	(D)	(A)	(3.1)	(A)	(1.1)	(A)	(D)	(A)	(D)	(A)
New machinery and equipment, n.s.k.[4]	(0.1)	(A)	(Z)	(A)	-	(X)	(1.6)	(A)	(6.5)	(A)
Used capital expenditures	0.5	2	0.2	1	(Z)	90	0.6	1	-	(X)
Retirements	2.8	2	0.7	1	(0.5)	16	1.7	8	(3.5)	50
End of year	88.7	2	37.3	1	25.0	6	148.9	3	62.2	11
Total gross value of depreciable assets:										
Beginning of year	161.5	1	51.0	1	34.9	3	198.5	3	83.9	12
New capital expenditures	7.0	3	5.1	1	1.4	14	20.5	3	(15.1)	22
Used capital expenditures	0.6	2	0.2	1	(Z)	(X)	0.6	1	-	(X)
Retirements	5.2	2	0.8	1	0.6	10	2.0	10	(4.4)	39
End of year	163.9	1	55.6	1	35.8	2	217.6	3	94.7	9
Depreciation charges during 1977	7.1	2	2.5	1	1.5	3	10.6	3	(6.3)	20
Buildings and other structures	2.3	1	0.6	1	0.4	11	2.2	5	(1.2)	18
Machinery and equipment	4.8	2	1.9	1	1.1	7	8.4	3	(5.1)	27

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3261, VITREOUS PLUMBING FIXTURES												
Total	-	**70**	**9.2**	**117.2**	**7.8**	**15.6**	**96.9**	**277.3**	**132.9**	**411.4**	**7.3**	**48.9**
Establishments with an average of—												
1 to 4 employees	E8	19	(Z)	0.3	(Z)	0.1	0.2	0.7	0.3	1.0	(Z)	0.1
5 to 9 employees	E8	6	(Z)	0.4	(Z)	0.1	0.3	1.2	0.5	1.7	(Z)	0.3
10 to 19 employees	E5	7	0.1	0.9	0.1	0.1	0.7	2.6	1.0	3.5	0.1	0.7
20 to 49 employees	E1	6	(0.4)	(3.8)	(0.3)	(0.6)	(3.0)	(9.8)	(4.4)	(14.2)	(0.2)	(1.7)
50 to 99 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	16	2.5	29.0	2.1	4.1	23.9	68.6	36.7	104.5	1.6	12.0
250 to 499 employees	-	10	3.5	47.4	3.0	5.9	39.4	102.6	58.5	160.0	4.3	21.0
500 to 999 employees	-	4	2.7	35.4	2.2	4.8	29.3	91.8	31.5	126.4	1.0	13.1
Covered by administrative records[2]	E0	24	0.1	1.5	0.1	0.2	1.2	3.5	1.8	5.3	0.1	0.8
INDUSTRY 3262, VITREOUS CHINA FOOD UTENSILS												
Total	-	**28**	**7.3**	**72.3**	**6.0**	**11.1**	**53.6**	**140.0**	**34.1**	**170.7**	**5.4**	**30.0**
Establishments with an average of—												
1 to 4 employees	E9	9	(Z)	(0.2)	(Z)	(Z)	(0.2)	(0.4)	(0.1)	(0.5)	(Z)	(0.1)
5 to 9 employees	E0	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	E6	4	0.1	0.5	(Z)	0.1	0.4	1.1	0.4	1.4	(3.2)	0.3
20 to 49 employees	-	2	(0.5)	(4.0)	(0.3)	(0.7)	(3.1)	(7.1)	(2.4)	(9.3)	(D)	(1.5)
50 to 99 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	E0	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	4	(2.9)	(30.4)	(2.5)	(4.9)	(22.5)	(57.4)	(13.1)	(69.2)	(D)	(9.3)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	3	3.9	37.2	3.1	5.4	27.6	74.1	18.1	90.3	2.1	18.8
Covered by administrative records[2]	E0	11	0.1	0.6	0.1	0.1	0.4	1.2	0.3	1.4	(Z)	0.3
INDUSTRY 3263, FINE EARTHENWARE FOOD UTENSILS												
Total	-	**23**	**4.7**	**38.4**	**3.5**	**6.4**	**27.1**	**61.2**	**21.7**	**81.3**	**1.7**	**17.2**
Establishments with an average of—												
1 to 4 employees	E9	4	(Z)	(0.3)	(Z)	(Z)	(0.2)	(0.5)	(0.1)	(0.6)	(0.7)	(Z)
10 to 19 employees	E0	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	E1	1	(0.2)	(2.0)	(0.2)	(0.4)	(1.3)	(3.0)	(1.0)	(4.0)	(D)	(0.3)
50 to 99 employees	E1	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	7	(1.5)	(12.1)	(1.3)	(2.4)	(9.1)	(17.2)	(6.6)	(24.2)	(D)	(4.3)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	3	(2.9)	(24.0)	(2.0)	(3.6)	(16.5)	(40.6)	(13.9)	(52.4)	(1.0)	(12.5)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	4	(Z)	0.3	(Z)	0.1	0.2	0.5	0.2	0.6	(Z)	0.1
INDUSTRY 3264, PORCELAIN ELECTRICAL SUPPLIES												
Total	-	**86**	**11.4**	**144.4**	**9.1**	**17.6**	**98.0**	**253.9**	**117.5**	**367.5**	**20.9**	**59.3**
Establishments with an average of—												
1 to 4 employees	E6	11	(Z)	0.2	(Z)	(Z)	0.1	0.4	0.1	0.5	(Z)	0.1
5 to 9 employees	E8	5	(Z)	0.3	(Z)	(Z)	0.2	0.7	0.3	1.0	(Z)	0.2
10 to 19 employees	E2	14	0.2	2.1	0.1	0.3	1.4	4.6	2.7	7.4	0.3	0.9
20 to 49 employees	-	16	0.5	5.7	0.4	0.8	3.8	11.7	4.4	15.7	0.4	2.3
50 to 99 employees	-	9	0.6	6.5	0.5	0.9	4.3	11.7	4.2	15.6	0.4	1.9
100 to 249 employees	-	20	3.2	35.4	2.6	5.1	25.5	62.9	36.5	98.2	6.8	16.1
250 to 499 employees	-	5	1.7	22.0	1.4	2.8	17.5	43.0	13.3	56.3	1.3	7.7
500 to 999 employees	-	4	(5.2)	(72.1)	(4.0)	(7.7)	(45.1)	(119.1)	(56.0)	(172.7)	(11.6)	(30.2)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	18	0.1	1.2	0.1	0.2	0.8	2.3	1.0	3.3	0.1	0.5
INDUSTRY 3269, POTTERY PRODUCTS, N.E.C.												
Total	**E1**	**727**	**10.6**	**87.4**	**9.2**	**17.1**	**66.2**	**161.1**	**70.7**	**229.9**	**9.8**	**26.7**
Establishments with an average of—												
1 to 4 employees	E8	483	0.6	4.4	0.6	0.9	3.3	9.7	4.5	14.3	0.7	1.6
5 to 9 employees	E4	67	0.4	3.4	0.4	0.7	2.5	6.1	3.8	9.9	0.4	1.1
10 to 19 employees	E1	61	0.8	6.1	0.7	1.2	4.5	11.8	6.7	18.4	1.1	2.2
20 to 49 employees	E2	56	1.7	12.5	1.4	2.6	9.4	21.4	8.6	29.8	1.2	3.6
50 to 99 employees	-	39	2.7	23.3	2.3	4.2	17.2	40.9	19.2	59.5	3.1	6.6
100 to 249 employees	-	17	2.6	22.5	2.1	4.2	16.4	41.9	15.1	56.3	2.8	6.5
250 to 499 employees	-	4	1.8	15.2	1.6	3.2	13.0	29.3	12.8	41.7	0.5	5.1
Covered by administrative records[2]	E0	446	0.9	6.1	0.8	1.3	4.5	12.1	5.9	18.0	0.9	2.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3261	**Vitreous plumbing fixtures:**										
	Entire industry	70	9.2	117.2	7.8	15.6	96.9	277.3	132.9	411.4	7.3
	Establishments with 75 percent specialization or more	68	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3262	**Vitreous china food utensils:**										
	Entire industry	28	7.3	72.3	6.0	11.1	53.6	140.0	34.1	170.7	5.4
	Establishments with 75 percent specialization or more	25	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3263	**Fine earthenware food utensils:**										
	Entire industry	23	4.7	38.4	3.5	6.4	27.1	61.2	21.7	81.3	1.7
	Establishments with 75 percent specialization or more	18	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3264	**Porcelain electrical supplies:**										
	Entire industry	86	11.4	144.4	9.1	17.6	98.0	253.9	117.5	367.5	20.9
	Establishments with 75 percent specialization or more	79	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3269	**Pottery products, n.e.c.:**										
	Entire industry	727	10.6	87.4	9.2	17.1	66.2	161.1	70.7	229.9	9.8
	Establishments with 75 percent specialization or more	706	9.7	79.9	8.4	15.4	60.0	146.8	64.2	209.7	9.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3261	Vitreous plumbing fixtures	1977	411.4	348.3	28.7	34.4	92	367.8	348.3	19.5	95
		1972	270.0	228.3	25.5	16.2	90	248.3	228.3	20.0	92
		1967	170.0	142.2	7.6	20.2	95	148.9	142.2	6.7	96
3262	Vitreous china food utensils	1977	170.7	137.0	(D)	(D)	[1]80	140.9	137.0	3.9	97
		1972	81.9	72.3	(D)	(D)	[1]85	82.0	72.3	9.7	88
		1967	67.2	62.0	(D)	(D)	[1]90	69.6	62.0	7.6	89
3263	Fine earthenware food utensils	1977	81.3	68.7	(D)	(D)	[1]85	90.8	68.7	22.1	76
		1972	74.3	56.5	(D)	(D)	[1]70	58.1	56.5	1.6	97
		1967	47.1	40.0	6.8	.3	86	46.7	40.0	6.7	86
3264	Porcelain electrical supplies	1977	367.5	312.0	48.8	6.7	86	378.9	312.0	66.9	82
		1972	274.6	247.0	23.3	4.3	91	259.0	247.0	12.0	95
		1967	225.0	185.7	34.1	5.2	85	188.6	185.7	2.9	98
3269	Pottery products, n.e.c.	1977	229.9	205.3	10.7	13.9	95	240.8	205.3	35.5	85
		1972	134.0	123.7	4.2	6.1	97	146.9	123.7	23.2	84
		1967	96.1	83.2	2.7	10.3	97	96.0	83.2	12.8	87

(D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.

[1]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Vitreous plumbing fixtures (SIC 3261)	Vitreous china food utensils (SIC 3262)	Fine earthenware food utensils (SIC 3263)	Porcelain electrical supplies (SIC 3264)	Pottery products, n.e.c. (SIC 3269)	Other industries
	Total	(X)	411.4	170.7	81.3	367.5	229.9	(X)
	Primary products	(X)	348.3	137.0	68.7	312.0	205.3	(X)
	Secondary products	(X)	28.7	(D)	(D)	48.8	10.7	(X)
	Miscellaneous receipts	(X)	34.4	(D)	(D)	6.7	13.9	(X)
32610	Vitreous plumbing fixtures and accessories	367.8	348.3	-	-	(D)	(D)	17.7
32620	Vitreous china food utensils	140.9	-	137.0	(D)	(D)	(D)	(D)
32630	Earthenware table and kitchen articles	90.8	-	(D)	68.7	-	(D)	-
32640	Porcelain and ceramic electrical supplies	378.9	-	-	-	312.0	(D)	(D)
32690	Pottery products, n.e.c	240.8	-	(D)	(D)	(D)	205.3	5.5
	Other shipments by 4-digit product group:							
2819-	Industrial inorganic chemicals, n.e.c	(X)	-	-	-	(D)	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	-	-	-	(D)	(X)
3253-	Ceramic wall and floor tile	(X)	-	-	(D)	-	(D)	(X)
3291-	Abrasive products	(X)	-	-	-	(D)	-	(X)
3293-	Gaskets, packing, and sealing devices	(X)	-	-	-	(D)	-	(X)
3297-	Nonclay refractories	(X)	-	-	-	(D)	-	(X)
3431-	Metal plumbing fixtures	(X)	(D)	-	-	-	-	(X)
3432-	Plumbing fittings and brass goods	(X)	(D)	-	-	-	-	(X)
3612-	Transformers	(X)	-	-	-	(D)	-	(X)
3643-	Current-carrying wiring devices	(X)	-	-	-	(D)	-	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	(Z)	-	-	(D)	(D)	(X)
99980 98	Other miscellaneous receipts	(X)	(Z)	(Z)	(D)	(D)	(D)	(X)
99989 00	Resales	(X)	34.4	(D)	(D)	5.6	11.1	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3261-	3431 Metal sanitary ware	(D)
3264-	3351 Copper rolling and drawing	(D)
	3356 Nonferrous rolling and drawing, n.e.c	(D)
3264-	3499 Fabricated metal products, n.e.c	(D)
	3612 Transformers	(D)
	3674 Semiconductors and related devices	(D)
	3676 Electronic resistors	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.
(X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1] Quantity	Product shipments[1] Value (million dollars)	Quantity of production for all purposes	Product shipments Quantity	Product shipments Value (million dollars)
	VITREOUS PLUMBING FIXTURES								
3261 --	Total	.....	(NA)	(X)	(X)	367.8	(X)	(X)	248.3
32610 10	Plumbing fixtures:								
	As reported in the census of manufactures	.....	20	(X)	(X)	350.2	(X)	(X)	237.9
	As reported in Current Industrial Reports MQ-34E, Plumbing Fixtures	.....	(NA)	(X)	(X)	348.3	(X)	(X)	224.4
	Drinking fountains:								
32610 12	Vitreous china	Thousands					(NA)	(NA)	(NA)
32610 13	Glazed earthenware								
	Lavatories:								
32610 17	Vitreous china		(NA)	(NA)	(NA)	65.3	2,939.0	2,959.4	37.5
32610 18	Glazed earthenware								
	Wash sinks and service sinks:								
32610 54	Vitreous china						(NA)	(NA)	(NA)
	Water closet bowls, made of vitreous china:								
32610 21	Syphon jet		(NA)	5,059.0	5,104.0	123.3	4,421.8	4,714.1	74.7
32610 24	Washdown		(NA)	67.8	62.0	.9	94.3	91.0	.8
32610 27	Reverse trap		(NA)	2,697.8	2,771.3	40.7	3,276.8	3,338.3	35.8
32610 31	Flush tanks made of vitreous china		(NA)	7,276.6	7,228.1	108.1	7,203.0	7,153.8	75.6
	Urinals:								
32610 36	Vitreous china		(NA)	187.7	199.2	10.0	(NA)	(NA)	(NA)
32610 37	Glazed earthenware	Thousands							
32610 51	China and earthenware plumbing fixture accessories and fittings, including towel racks, soap cups, etc	.....	11	(X)	(X)	11.0	(X)	(X)	7.0
32610 00	Vitreous and semivitreous plumbing fixtures, accessories, and fittings, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	1.2	(X)	(X)	2.5
32610 02	Vitreous and semivitreous plumbing fixtures, accessories, and fittings, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	5.3	(X)	(X)	.9

1977 product code	Product	Unit of measure	1977			1972		
			Number of companies with shipments of $100,000 or more	Product shipments[1] Quantity	Product shipments[1] Value (million dollars)	Product shipments Quantity	Product shipments Value (million dollars)
	VITREOUS CHINA FOOD UTENSILS						
3262- --	Total	.....	(X)	(X)	140.9	(X)	82.0
32620 --	Vitreous china and porcelain table and kitchen utensils (feldspar and bone):						
	Tableware (for serving food and drink):						
32620 14	Household	Million dozen pieces.	6	(S)	40.0	2.2	35.0
32620 18	Hotel or commercial		8	6.8	83.3	5.7	44.0
32620 52	Kitchenware, household or commercial (for cooking, preparing, and storing food and drink)	Million dozen pieces.	4	(NA)	16.2	(NA)	2.4
32620 00	Vitreous china food utensils, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)				
32620 02	Vitreous china food utensils, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	1.4	(X)	.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	FINE EARTHENWARE FOOD UTENSILS						
3263- --	Total	.....	(NA)	(X)	90.8	(X)	58.1
32630 --	Earthenware (semivitreous) table and kitchen articles:						
32630 12	Tableware, household and commercial (for serving food and drink)	Million dozen pieces.	14	12.2	77.1	13.5	55.6
32630 52	Kitchenware, household and commercial (for cooking, preparing, and storing food and drink)	Million dozen pieces.	5	.7	12.3	.2	2.5
32630 00	Earthenware (semivitreous) table and kitchen utensils, n.s.k., typically for companies with 20 employees or more (see note)	.....	(NA)	(X)	.8	(X)	-
32630 02	Earthenware (semivitreous) table and kitchen utensils, n.s.k., typically for companies with less than 20 employees	.....	(NA)	(X)	.6	(X)	-
	PORCELAIN ELECTRICAL SUPPLIES						
3264- --	Total	.....	(NA)	(X)	378.9	(X)	259.0
32640 --	Porcelain, steatite, and other ceramic electrical products:						
	Porcelain electrical products, excluding steatite, alumina, ferrite, titanate, etc.:						
	High-voltage porcelain products (wet process porcelain), shipped as complete insulators:						
32640 12	Low-voltage one-piece pin-type insulators	.....	7	(X)	9.0	(X)	5.0
32640 13	High-voltage pin-type insulators and line posts	.....	8	(X)	23.0	(X)	9.8
	Suspension type insulators:						
32640 14	7-1/2 inch disc and smaller	Millions.....	7	3.2	10.8	4.7	10.3
32640 15	Larger than 7-1/2 inch disc	Millions.....	5	3.5	21.9	5.3	17.9
32640 16	Switch and bus insulators, including cap and pin and post types	.....	5	(X)	27.2	(X)	19.9
32640 17	All other, including guy strain insulators and spools	.....	8	(X)	13.6	(X)	12.7
32640 18	High-voltage porcelain products (wet process porcelain), shipped as porcelain pieces only for component parts of other electrical equipment	.....	11	(X)	33.3	(X)	28.7
32640 29	All dry process electrical porcelain, including porcelain parts for wiring devices, fuses, circuit breakers, radio receiving sets, spark plugs, electrical refractory porcelain, cleats, knobs, tubes, outlet and switch box covers, etc	.....	12	(X)	71.8	(X)	57.1
32640 41	Steatite electrical products	.....	14	(X)	41.9	(X)	16.4
32640 51	Ceramic permanent magnets	.....	9	(X)	28.1	(X)	6.8
32640 52	Other ferrites, except electronic application	.....	5	(X)	7.0	(NA)	(2)
32640 61	Alumina materials for electronic application	.....	16	(X)	63.3	(X)	44.7
32640 98	Beryllia, titanate, and other ceramic electrical products, n.e.c	.....	7	(X)	17.7	(X)	219.4
32640 00	Porcelain electrical supplies, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	6.9	(X)	9.5
32640 02	Porcelain electrical supplies, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	3.3	(X)	.8
	POTTERY PRODUCTS, N.E.C.						
3269- --	Total	.....	(NA)	(X)	240.8	(X)	146.9
32690 --	Pottery products, n.e.c., including china decorating for the trade:						
	Art, decorative, and novelty pottery, including vases, lamp bases, figures, plaques, book ends, garden pottery, and ash trays:						
32690 11	China and porcelain	.....	26	(X)	44.4	(X)	34.5
32690 31	Earthenware and stoneware	.....	53	(X)	56.5	(X)	39.0
32690 41	Stoneware table and kitchen articles, household and commercial (for serving, cooking, preparing, and storing food and drink)	Thousand dozen pieces.	18	(S)	34.7	(NA)	(D)
	Other pottery products, n.e.c.:						
32690 61	Chemical, technical, and industrial pottery, including chemical stoneware and porcelain, pyrometric tubes, etc	.....	9	(X)	17.8	(X)	14.7
32690 71	Red unglazed earthenware (flower pots, etc.)	.....	10	(X)	14.9	(X)	8.7
32690 81	All other pottery products, including pyrometric cones, veritas rings, etc	.....	15	(X)	20.1	(X)	6.7
32690 91	China decorating for the trade	Thousand dozen pieces.	-	-	-	(NA)	(D)
32690 00	Pottery products, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	34.5	(X)	22.3
32690 02	Pottery products, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	18.0	(X)	13.2

Footnotes are on next page.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For 1972, product code 32640 52 was included with product code 32640 98.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(Not applicable to this report)

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
32610	Vitreous plumbing fixtures and accessories.....	367.8	287.6	243.9	287.1	261.9	248.3	148.9	143.8
32620	Vitreous china food utensils.....	140.9	107.0	102.2	102.1	101.1	82.0	69.6	51.9
32630	Earthenware table and kitchen articles.....	90.8	74.9	81.0	74.8	62.3	58.1	46.7	58.2
32640	Porcelain and ceramic electrical supplies.....	378.9	333.2	326.3	369.7	360.5	259.0	188.6	121.5
32690	Pottery products, n.e.c.....	240.8	(258.7)	210.9	167.8	191.9	146.9	96.0	81.4

n.e.c. Not elsewhere classified.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. **Materials Consumed by Kind: 1977**

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	Quantity	Delivered cost (million dollars)
	INDUSTRY 3261, VITREOUS PLUMBING FIXTURES[1]			
	Materials, parts, containers, and supplies	.....	(X)	88.5
145001	Clay, ceramic, and refractory materials	1,000 s. tons..	(S)	35.6
280001	Industrial chemicals	.....	(X)	1.1
346901	Metal stampings, including vitreous enameled parts and perforated metals	.....	(X)	(D)
364301	Appliance outlets, connectors, switches, lampholders, and other current-carrying wire devices	.....	(X)	(D)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	42.1
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	3.0
	INDUSTRY 3262, VITREOUS CHINA FOOD UTENSILS[1]			
	Materials, parts, containers, and supplies	.....	(X)	25.1
145001	Clay, ceramic, and refractory materials	1,000 s. tons..	154.1	8.4
280001	Industrial chemicals	.....	(X)	.2
346901	Metal stampings, including vitreous enameled parts and perforated metals	.....	(X)	
970099	All other materials and components, parts, containers, and supplies	.....	(X)	13.6
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	2.9
	INDUSTRY 3263, FINE EARTHENWARE FOOD UTENSILS[1]			
	Materials, parts, containers, and supplies	.....	(X)	15.0
145001	Clay, ceramic, and refractory materials	1,000 s. tons..	158.5	6.2
280001	Industrial chemicals	.....	(X)	1.2
346901	Metal stampings, including vitreous enameled parts and perforated metals	.....		
364301	Appliance outlets, connectors, switches, lampholders, and other current-carrying wire devices	.....	(X)	6.8
970099	All other materials and components, parts, containers, and supplies	.....		
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	.8
	INDUSTRY 3264, PORCELAIN ELECTRICAL SUPPLIES[1]			
	Materials, parts, containers, and supplies	.....	(X)	95.7
145001	Clay, ceramic, and refractory materials	1,000 s. tons..	(S)	31.5
280001	Industrial chemicals	.....	(X)	1.5
346901	Metal stampings, including vitreous enameled parts and perforated metals	.....		
364301	Appliance outlets, connectors, switches, lampholders, and other current-carrying wire devices	.....	(X)	4.4
970099	All other materials and components, parts, containers, and supplies	.....	(X)	50.7
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	7.6
	INDUSTRY 3269, POTTERY PRODUCTS, N.E.C.[1]			
	Materials, parts, containers, and supplies	.....	(NA)	49.7
145001	Clay, ceramic, and refractory materials	1,000 s. tons..	(S)	12.1
280001	Industrial chemicals	.....	(X)	1.4
346901	Metal stampings, including vitreous enameled parts and perforated metals	.....		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	14.6
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	21.6

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Materials consumed by kind data were not collected in 1972.

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form and establishments reporting on the sort of form that did not include a material inquiry.

Concrete, Plaster, and Cut Stone Products

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DESCRIPTION OF INDUSTRIES

CONCRETE, PLASTER, AND CUT STONE PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3271	Concrete Block and Brick
3272	Concrete Products, N.E.C.
3273	Ready-Mixed Concrete
3274	Lime
3275	Gypsum Products
3281	Cut Stone and Stone Products

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3271, CONCRETE BLOCK AND BRICK

This industry comprises establishments primarily engaged in the manufacture of concrete building block and brick from a combination of cement and aggregate. Contractors primarily engaged in concrete construction are classified in the construction industries, and building materials dealers primarily engaged in mixed and mixing ready-mixed concrete in industry 3273.

The total value of shipments for establishments classified in the Concrete Block and Brick industry amounted to $1,144 million in 1977, an increase of 34 percent from 1972. The value of shipments of products classified as primary to the industry was $1,005 million, an increase of 26 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $520 million in 1977, was 19 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 18.7 thousand employees, a decrease of 22 percent from 1972. The leading States in employment were Pennsylvania, California, Ohio, and Michigan, accounting for approximately 25 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 12 percent of total value of shipments.

INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of concrete products, except block and brick, from a combination of cement and aggregate. Contractors primarily engaged in concrete construction work are classified in the construction industries, and establishments primarily engaged in mixing and delivering ready-mixed concrete in industry 3273.

The total value of shipments for establishments classified in the Concrete Products, N.E.C. industry amounted to $2,736 million in 1977, an increase of 40 percent from 1972. The value of shipments of products classified as primary to the industry was $2,596 million, an increase of 39 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,529 million in 1977, was 29 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 61.7 thousand employees, a decrease of 10 percent from 1972. The leading States in employment were California, Texas, Florida, and Ohio, accounting for approximately 29 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administra-

tive records of other agencies or developed from industry averages. These establishments accounted for 12 percent of total value of shipments.

INDUSTRY 3273, READY-MIXED CONCRETE

This industry comprises establishments primarily engaged in the manufacture of portland cement concrete manufactured and delivered to a purchaser in a plastic and unhardened state. This industry includes production and sale of central-mixed concrete, shrink-mixed concrete, and transit-mixed concrete.

The total value of shipments for establishments classified in the Ready-Mixed Concrete industry amounted to $6,441 million in 1977, an increase of 60 percent from 1972. The value of shipments of products classified as primary to the industry was $5,680 million, an increase of 59 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,693 million in 1977, was 53 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 87.9 thousand employees, an increase of 3 percent from 1972. The leading States in employment were Texas, California, Illinois, and Ohio, accounting for approximately 27 percent of the industry's 1977 employment. This represents a shift from 1972 when California, Florida, Texas, and New York accounted for approximately 29 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 15 percent of total value of shipments.

INDUSTRY 3274, LIME

This industry comprises establishments primarily engaged in the manufacture of quicklime, hydrated lime, and "dead burned" dolomite from limestone, dolomite shells, or other substances.

The total value of shipments for establishments classified in the Lime industry amounted to $484 million in 1977, an increase of 96 percent from 1972. The value of shipments of products classified as primary to the industry was $474 million, an increase of 99 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $218 million in 1977, was 65 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 5.9 thousand employees, an increase of 3 percent from 1972. The leading States in employment were Missouri, Ohio, Pennsylvania, and Texas, accounting for approximately 55 percent of the industry's 1977 employment. Data for Missouri, Ohio, and Pennsylvania have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3275, GYPSUM PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of plaster, plasterboard, and other products composed wholly or chiefly of gypsum.

The total value of shipments for establishments classified in the Gypsum Products industry amounted to $1,000 million in 1977, an increase of 56 percent from 1972. The value of shipments of products classified as primary to the industry was $932 million, an increase of 60 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $430 million in 1977, was 32 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 9.5 thousand employees, a decrease of 18 percent from 1972. The leading States in employment were California, Texas, Iowa, and New York, accounting for approximately 42 percent of the industry's 1977 employment. Data for California and Texas have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3281, CUT STONE AND STONE PRODUCTS

This industry comprises establishments primarily engaged in cutting, shaping, and finishing marble, granite, slate, and other stone for building and miscellaneous uses. Establishments

primarily engaged in buying or selling partly finished monuments and tombstones, but performing no work on the stones other than lettering, finishing, or shaping to custom order, are classified in trade industries. The cutting of grindstones, pulpstones, and whetstones at the quarry is classified as mining.

The total value of shipments for establishments classified in the Cut Stone and Stone Products industry amounted to $393 million in 1977, an increase of 29 percent from 1972. The value of shipments of products classified as primary to the industry was $386 million, an increase of 34 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $238 million in 1977, was 24 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.7 thousand employees, a decrease of 18 percent from 1972. The leading States in employment were Georgia, Vermont, and Minnesota, accounting for approximately 33 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 14 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3271, CONCRETE BLOCK AND BRICK																
1977 Census--	1 163	1 273	348	18.7	237.1	11.8	24.1	126.6	520.3	627.7	1 143.8	55.5	(NA)	124.0	93	85
1976 ASM[6] ---	(NA)	(NA)	(NA)	20.3	225.7	13.0	25.6	121.1	495.0	580.7	1 075.1	57.7	548.6	113.1	(NA)	(NA)
1975 ASM[5] ---	(NA)	(NA)	(NA)	21.5	226.0	14.2	27.0	129.5	478.7	533.8	1 015.8	39.2	566.4	115.8	(NA)	(NA)
1974 ASM[6] ---	(NA)	(NA)	(NA)	22.6	212.4	14.7	28.0	124.5	493.4	527.8	1 006.5	45.9	471.1	115.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	22.3	202.6	14.9	32.1	118.0	479.2	464.8	944.4	49.8	489.1	93.4	(NA)	(NA)
1972 Census--	1 300	1 388	416	22.8	196.0	15.2	31.5	115.0	438.5	421.8	855.7	46.2	468.7	88.6	93	85
1971 ASM----	(NA)	(NA)	(NA)	21.3	159.9	14.4	29.0	96.6	392.5	383.5	778.4	40.9	396.8	83.7	(NA)	(NA)
1970 ASM[6] ---	(NA)	(NA)	(NA)	21.9	151.8	15.1	31.5	94.2	338.2	319.9	653.1	33.9	385.9	86.0	(NA)	(NA)
1969 ASM[6] ---	(NA)	(NA)	(NA)	21.0	152.1	14.2	29.3	90.1	317.7	327.9	644.0	45.7	364.5	67.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	21.2	146.1	14.6	29.3	86.5	310.9	310.3	621.3	36.5	332.1	60.5	(NA)	(NA)
1967 Census--	1 534	1 599	349	21.1	130.1	14.6	30.6	77.0	274.2	276.1	550.1	30.5	307.2	60.8	92	86
1966 ASM----	(NA)	(NA)	(NA)	24.4	137.7	17.0	35.7	82.5	296.7	294.9	585.9	33.3	(NA)	66.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	24.7	133.8	17.5	37.5	80.3	284.8	294.9	578.4	28.0	(NA)	62.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	23.5	121.0	16.2	36.3	73.4	258.5	271.6	530.0	24.3	284.5	60.5	(NA)	(NA)
1963 Census--	1 786	1 841	367	23.8	119.5	16.7	36.1	72.7	245.5	262.8	505.2	31.1	269.0	58.0	92	84
INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.																
1977 Census--	3 476	3 916	862	61.7	734.9	48.1	97.2	494.5	1 529.3	1 234.1	2 736.2	134.4	(NA)	389.7	96	95
1976 ASM----	(NA)	(NA)	(NA)	56.9	644.1	44.4	91.9	435.3	1 396.7	1 044.5	2 429.9	107.1	1 069.3	332.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	58.0	612.0	44.4	90.6	418.5	1 392.1	1 013.5	2 400.7	98.4	1 023.7	334.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	62.0	617.5	49.5	103.6	438.5	1 307.9	1 008.1	2 287.4	119.6	959.4	347.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	71.4	642.0	55.8	114.9	450.9	1 303.0	861.1	2 156.0	86.7	967.9	304.2	(NA)	(NA)
1972 Census--	3 199	3 595	923	67.7	570.2	53.6	109.9	401.0	1 190.1	786.4	1 961.4	96.2	967.0	260.3	96	95
1971 ASM----	(NA)	(NA)	(NA)	65.2	512.7	51.9	106.4	365.8	1 058.1	700.1	1 748.8	66.3	722.2	230.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	62.7	457.6	50.3	106.3	327.8	924.6	604.9	1 522.8	75.7	760.5	209.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	58.6	416.5	46.8	100.3	294.7	848.6	558.8	1 407.8	71.8	618.7	180.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	56.6	383.7	45.2	96.0	273.0	816.5	525.1	1 330.6	62.1	575.0	171.0	(NA)	(NA)
1967 Census--	3 055	3 412	802	56.8	351.1	45.4	94.2	247.9	722.6	487.9	1 201.1	73.8	538.3	159.1	96	94
1966 ASM----	(NA)	(NA)	(NA)	60.5	338.5	46.7	95.2	238.1	691.9	485.0	1 189.7	67.9	(NA)	153.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	58.3	314.2	45.8	95.2	223.8	636.3	454.4	1 083.1	60.5	(NA)	152.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	54.4	283.5	42.5	89.7	201.7	591.8	407.4	977.5	50.8	438.1	144.8	(NA)	(NA)
1963 Census--	3 130	3 451	716	52.3	266.7	41.1	87.3	190.9	540.0	387.4	925.7	43.5	402.2	126.1	94	94
INDUSTRY 3273, READY-MIXED CONCRETE																
1977 Census--	4 319	5 433	1 357	87.9	1 175.8	62.0	125.3	766.6	2 693.2	3 757.0	6 440.6	353.1	(NA)	231.5	93	98
1976 ASM----	(NA)	(NA)	(NA)	81.8	997.0	58.6	113.4	657.3	2 246.2	3 069.1	5 311.7	247.7	2 288.5	181.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	83.2	944.3	59.0	114.0	618.8	2 088.3	2 890.0	4 974.2	236.5	2 303.0	184.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	87.2	935.4	61.7	122.1	610.5	2 101.8	2 812.2	4 903.3	228.5	2 078.7	143.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	86.4	868.6	57.1	113.1	540.1	1 888.9	2 480.4	4 366.2	254.7	1 985.8	123.4	(NA)	(NA)
1972 Census--	3 978	4 915	1 328	85.7	809.3	56.9	114.4	497.4	1 756.7	2 291.8	4 050.9	247.8	2 131.2	116.1	93	98
1971 ASM----	(NA)	(NA)	(NA)	76.7	655.3	54.8	106.1	426.2	1 422.7	1 849.9	3 279.8	135.4	1 590.4	103.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	76.4	598.6	53.5	107.4	391.3	1 275.6	1 653.3	2 944.1	149.7	1 526.7	115.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	74.9	562.3	49.0	102.7	352.6	1 320.6	1 613.8	2 925.3	140.4	1 526.7	107.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	73.1	521.9	48.3	98.2	319.0	1 206.2	1 570.1	2 764.6	115.6	1 464.0	96.0	(NA)	(NA)
1967 Census--	4 032	4 760	1 150	74.5	508.8	49.2	100.7	308.6	1 155.5	1 529.2	2 684.2	136.9	1 367.4	87.0	93	98
1966 ASM----	(NA)	(NA)	(NA)	75.4	487.9	49.9	101.4	295.4	1 051.3	1 483.8	2 527.8	143.8	(NA)	76.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	76.2	465.6	50.2	102.4	279.2	1 066.7	1 447.4	2 511.5	135.6	(NA)	70.1	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	72.3	431.8	46.8	97.4	259.0	996.6	1 319.7	2 310.3	105.7	1 043.3	71.9	(NA)	(NA)
1963 Census--	3 999	4 621	1 021	71.5	410.5	46.1	96.2	245.0	982.0	1 308.0	2 292.5	106.0	975.8	64.5	92	98
INDUSTRY 3274, LIME																
1977 Census--	64	94	63	5.9	75.4	4.8	9.8	59.4	218.2	264.8	484.2	29.7	(NA)	47.2	92	92
1976 ASM----	(NA)	(NA)	(NA)	6.4	75.7	5.2	10.9	56.1	225.9	231.6	455.5	32.4	407.4	44.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	6.7	72.1	5.5	11.1	53.2	208.8	208.1	414.2	38.8	409.5	41.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	6.3	60.6	5.3	11.2	46.9	168.2	167.8	334.3	30.1	318.6	33.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	5.5	50.5	4.6	9.7	39.0	132.2	117.3	251.7	23.0	317.7	21.5	(NA)	(NA)
1972 Census--	69	103	69	5.7	50.0	4.8	10.4	38.9	129.3	109.0	238.1	39.4	304.0	18.8	89	92
1971 ASM----	(NA)	(NA)	(NA)	5.9	48.6	4.7	10.5	37.2	116.9	95.9	212.4	12.8	291.1	20.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	6.3	47.8	4.9	11.0	36.9	111.5	90.4	210.2	18.2	284.9	21.2	(NA)	(NA)
1969 ASM[5] ---	(NA)	(NA)	(NA)	6.8	49.3	5.7	11.6	36.1	106.6	99.0	206.1	20.4	270.0	19.0	(NA)	(NA)
1968 ASM[5] ---	(NA)	(NA)	(NA)	6.8	44.9	5.7	12.0	34.7	107.0	80.9	186.4	18.5	262.4	19.3	(NA)	(NA)
1967 Census[5] -	78	116	71	6.8	42.6	5.7	12.0	33.4	100.1	76.8	176.5	17.7	245.4	15.8	87	93
1966 ASM[6] ---	(NA)	(NA)	(NA)	7.5	49.1	6.2	13.6	38.1	117.4	80.3	197.9	22.1	(NA)	17.4	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	7.3	44.1	5.9	12.6	32.6	110.1	84.6	193.1	15.7	(NA)	16.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	7.0	41.8	5.8	12.4	31.4	103.3	84.0	187.2	21.4	176.9	13.9	(NA)	(NA)
1963 Census--	81	125	68	6.8	38.9	5.4	11.4	28.5	95.1	69.0	164.4	14.7	169.3	14.0	82	94

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3275, GYPSUM PRODUCTS																
1977 Census--	60	128	81	9.5	143.6	7.6	17.3	111.5	429.6	565.6	1 000.0	31.9	(NA)	72.4	96	98
1976 ASM----	(NA)	(NA)	(NA)	8.5	119.7	6.7	15.9	91.6	296.6	451.4	747.6	21.2	567.7	63.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.7	103.5	6.7	14.5	76.5	250.6	349.1	600.6	20.2	569.0	62.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.5	117.8	8.2	18.4	88.0	315.6	401.7	710.6	35.6	592.7	72.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	11.2	124.1	9.0	21.2	95.8	356.2	360.4	716.8	25.9	542.7	55.6	(NA)	(NA)
1972 Census--	44	114	84	11.2	115.5	9.0	21.1	88.7	325.1	317.5	640.3	23.3	523.8	52.2	95	99
1971 ASM----	(NA)	(NA)	(NA)	10.3	99.5	8.2	19.6	75.8	267.2	261.7	526.3	15.8	538.4	50.4	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	10.4	87.6	8.2	18.4	65.5	210.8	208.4	419.5	12.5	529.5	46.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	10.7	88.2	8.4	19.6	67.1	244.6	212.0	456.8	24.9	517.7	42.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	10.3	79.7	8.2	19.2	60.7	249.8	190.8	439.6	22.3	491.4	41.2	(NA)	(NA)
1967 Census--	55	117	78	10.0	70.7	7.8	17.5	52.2	225.6	160.0	387.7	12.9	484.5	39.2	96	98
1966 ASM----	(NA)	(NA)	(NA)	11.1	71.2	8.5	19.0	52.5	222.5	170.4	394.4	19.2	(NA)	45.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	11.9	75.8	9.2	20.6	57.0	238.5	189.1	429.1	32.5	(NA)	42.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	12.0	76.0	9.5	21.6	58.1	270.5	183.6	453.9	22.1	422.9	40.2	(NA)	(NA)
1963 Census--	60	122	72	11.5	70.3	9.2	20.8	54.5	259.7	164.4	425.1	15.2	402.5	36.5	97	98
INDUSTRY 3281, CUT STONE AND STONE PRODUCTS																
1977 Census--	965	993	164	12.7	131.5	10.6	21.4	98.8	238.2	157.5	393.0	10.4	(NA)	53.8	96	95
1976 ASM----	(NA)	(NA)	(NA)	15.2	137.0	12.7	25.5	102.3	274.4	158.7	433.4	19.7	164.3	56.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	14.6	121.4	12.2	23.7	93.7	233.8	147.7	375.9	7.5	149.7	57.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	13.7	110.4	11.8	23.3	86.9	210.9	118.4	317.9	10.7	133.3	41.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	14.7	108.9	12.6	24.1	84.4	196.2	119.9	316.7	9.7	143.8	40.6	(NA)	(NA)
1972 Census--	874	908	192	15.0	109.2	12.6	24.2	84.7	191.4	117.6	304.5	12.6	149.2	40.7	96	98
1971 ASM----	(NA)	(NA)	(NA)	13.6	96.2	11.3	22.3	73.7	163.1	97.2	261.4	7.4	115.0	34.0	(NA)	(NA)
1970 ASM[6]---	(NA)	(NA)	(NA)	14.6	92.6	12.2	24.3	72.3	151.8	95.6	248.7	9.2	124.7	34.1	(NA)	(NA)
1969 ASM[6]---	(NA)	(NA)	(NA)	15.9	92.9	13.7	27.2	75.0	151.0	92.4	244.4	6.2	108.3	30.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	16.8	95.2	14.1	28.2	73.8	159.7	90.4	249.4	7.8	120.3	33.1	(NA)	(NA)
1967 Census--	776	811	196	16.6	90.8	14.1	28.3	70.9	148.2	88.9	236.4	6.1	118.7	31.5	95	99
1966 ASM[6]---	(NA)	(NA)	(NA)	17.2	90.9	14.2	28.4	68.9	135.0	90.6	224.2	5.4	(NA)	31.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	17.8	90.9	14.6	29.3	69.7	133.7	85.8	219.7	5.3	(NA)	29.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	18.8	90.8	15.7	31.5	70.6	142.8	87.6	231.4	4.5	110.4	31.4	(NA)	(NA)
1963 Census--	857	893	211	18.3	85.7	15.3	30.9	66.7	131.5	86.6	217.2	6.7	106.7	31.2	94	99

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3271, CONCRETE BLOCK AND BRICK											
1977 Census--	12 684	(NA)	63	2 042	5.24	54	75	(NA)	27 833	45	21.55
1976 ASM----	11 118	27 024	64	1 969	4.73	54	75	51	24 384	45	19.33
1975 ASM----	10 511	26 344	66	1 901	4.79	52	74	55	22 265	47	17.72
1974 ASM----	9 398	20 845	65	1 904	4.44	47	73	51	21 831	43	17.62
1973 ASM----	9 085	21 932	66	2 154	3.67	49	70	51	21 488	42	14.92
1972 Census--	8 596	20 557	66	2 072	3.65	49	72	54	19 232	44	13.92
1971 ASM----	7 507	18 629	67	2 013	3.33	49	69	50	18 427	40	13.53
1970 ASM----	6 931	17 621	68	2 086	2.99	48	72	59	15 442	44	10.73
1969 ASM----	7 242	17 357	67	2 063	3.07	50	74	56	15 128	47	10.84
1968 ASM----	6 891	15 665	68	2 006	2.95	49	73	53	14 665	46	10.61
1967 Census--	6 165	14 559	69	2 095	2.51	50	73	55	12 995	47	8.96
1966 ASM----	5 643	(NA)	69	2 100	2.31	50	73	(NA)	12 159	46	8.31
1965 ASM----	5 417	(NA)	70	2 142	2.14	50	74	(NA)	11 530	46	7.59
1964 ASM----	5 148	12 106	68	2 240	2.02	51	74	53	11 000	46	7.12
1963 Census--	5 021	11 302	70	2 161	2.01	52	75	53	10 315	48	6.80
INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.											
1977 Census--	11 917	(NA)	77	2 021	5.08	45	71	(NA)	24 800	48	15.73
1976 ASM----	11 319	18 792	78	2 069	4.73	42	69	44	24 546	46	15.19
1975 ASM----	10 551	17 650	76	2 040	4.61	42	67	42	24 001	43	15.36
1974 ASM----	9 959	15 474	79	2 092	4.23	44	71	41	21 095	47	12.62
1973 ASM----	8 991	13 556	78	2 059	3.92	39	69	44	18 249	49	11.34
1972 Census--	8 422	14 283	79	2 050	3.64	40	69	49	17 579	47	10.82
1971 ASM----	7 863	11 076	79	2 050	3.43	40	69	41	16 228	48	9.94
1970 ASM----	7 298	12 129	80	2 113	3.08	39	69	49	14 746	49	8.69
1969 ASM----	7 107	10 558	79	2 143	2.93	39	69	43	14 481	49	8.46
1968 ASM----	6 779	10 159	79	2 123	2.84	39	68	43	14 425	46	8.50
1967 Census--	6 181	9 477	79	2 074	2.63	40	69	44	12 721	48	7.67
1966 ASM----	5 595	(NA)	77	2 038	2.50	40	69	(NA)	11 436	48	7.26
1965 ASM----	5 389	(NA)	79	2 078	2.35	41	70	(NA)	10 914	49	6.68
1964 ASM----	5 211	8 053	78	2 110	2.24	41	70	44	10 878	47	6.59
1963 Census--	5 099	7 690	78	2 124	2.18	41	70	43	10 325	49	6.18
INDUSTRY 3273, READY-MIXED CONCRETE											
1977 Census--	13 369	(NA)	70	2 020	6.11	58	76	(NA)	30 623	43	21.49
1976 ASM----	12 188	27 976	71	1 935	5.79	57	76	43	27 459	44	19.80
1975 ASM----	11 349	27 680	70	1 932	5.42	58	77	46	25 099	45	18.31
1974 ASM----	10 727	23 838	70	1 978	5.00	57	76	42	24 103	44	17.21
1973 ASM----	10 053	22 983	66	1 980	4.77	56	76	45	21 862	45	16.70
1972 Census--	9 443	24 868	66	2 010	4.34	56	76	52	20 498	46	15.35
1971 ASM----	8 543	20 735	71	1 936	4.01	56	76	48	18 548	46	13.40
1970 ASM----	7 835	21 647	70	2 007	3.64	56	76	56	16 696	46	11.87
1969 ASM----	7 507	20 383	65	2 095	3.43	55	74	52	17 631	42	12.85
1968 ASM----	7 139	20 027	66	2 033	3.24	56	75	52	16 500	43	12.28
1967 Census--	6 829	18 354	66	2 046	3.06	56	75	50	15 510	44	11.47
1966 ASM----	6 470	(NA)	66	2 032	2.91	58	78	(NA)	13 942	46	10.36
1965 ASM----	6 110	(NA)	65	2 039	2.72	57	76	(NA)	13 998	43	10.41
1964 ASM----	5 972	14 430	64	2 081	2.65	57	75	45	13 784	43	10.23
1963 Census--	5 741	13 647	64	2 086	2.54	57	74	42	13 734	41	10.20
INDUSTRY 3274, LIME											
1977 Census--	12 830	(NA)	82	2 027	6.05	54	70	(NA)	37 109	34	22.23
1976 ASM----	11 828	63 656	81	2 096	5.14	50	67	89	35 296	33	20.72
1975 ASM----	10 761	61 119	82	2 018	4.79	50	67	98	31 164	34	18.81
1974 ASM----	9 619	50 571	84	2 113	4.18	50	68	95	26 698	36	15.01
1973 ASM----	9 181	57 763	83	2 108	4.02	46	66	126	24 036	38	13.62
1972 Census--	8 771	53 333	84	2 166	3.74	45	66	127	22 684	38	12.43
1971 ASM----	8 237	49 338	79	2 234	3.54	45	68	137	19 814	42	11.11
1970 ASM----	7 587	45 222	77	2 244	3.35	43	68	136	17 698	42	10.13
1969 ASM----	7 250	39 705	83	2 035	3.11	48	71	131	15 676	46	9.18
1968 ASM----	6 602	38 588	83	2 105	2.89	43	67	140	15 735	41	8.91
1967 Census--	6 264	36 088	83	2 105	2.78	43	67	139	14 720	42	8.34
1966 ASM----	6 546	(NA)	82	2 193	2.80	40	65	(NA)	15 653	41	8.63
1965 ASM----	6 041	(NA)	80	2 135	2.58	43	66	(NA)	15 082	40	8.73
1964 ASM----	5 971	25 271	82	2 137	2.53	44	67	94	14 757	40	8.33
1963 Census--	5 720	24 897	79	2 111	2.50	41	65	102	13 985	40	8.34

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3275, GYPSUM PRODUCTS										
1977 Census--	15 105	(NA)	80	2 277	6.43	56	70	(NA)	45 201	33	24.79
1976 ASM----	14 082	66 788	78	2 373	5.76	60	76	75	34 894	40	18.65
1975 ASM----	11 896	65 402	77	2 164	5.27	58	75	94	28 804	41	17.28
1974 ASM----	11 219	56 447	78	2 243	4.78	56	73	83	30 057	37	17.15
1973 ASM----	11 080	48 455	80	2 355	4.51	50	67	75	31 803	34	16.80
1972 Census--	10 312	46 767	80	2 344	4.20	49	67	81	29 026	35	15.40
1971 ASM----	9 660	52 271	79	2 390	3.86	49	68	102	25 941	37	13.63
1970 ASM----	8 423	50 913	78	2 243	3.55	49	70	126	20 269	41	11.45
1969 ASM----	8 242	48 383	78	2 333	3.42	46	65	113	22 859	36	12.47
1968 ASM----	7 737	47 709	79	2 341	3.16	43	61	112	24 252	31	13.01
1967 Census--	7 070	48 450	78	2 243	2.98	41	59	124	22 560	31	12.89
1966 ASM----	6 414	(NA)	76	2 235	2.76	43	61	(NA)	20 045	32	11.71
1965 ASM----	6 369	(NA)	77	2 239	2.76	44	61	(NA)	20 042	31	11.57
1964 ASM----	6 333	35 241	79	2 273	2.68	40	57	93	22 541	28	12.52
1963 Census--	6 113	35 000	80	2 260	2.62	38	55	94	22 582	27	12.48
	INDUSTRY 3281, CUT STONE AND STONE PRODUCTS										
1977 Census--	10 368	(NA)	83	2 026	4.61	40	73	(NA)	18 776	55	11.10
1976 ASM----	9 013	10 809	83	2 007	4.01	36	68	37	18 052	49	10.76
1975 ASM----	8 315	10 253	83	1 942	3.95	39	71	39	16 013	51	9.86
1974 ASM----	8 058	9 729	86	1 974	3.72	37	71	41	15 394	52	9.05
1973 ASM----	7 408	9 782	85	1 912	3.50	37	72	45	13 346	55	8.14
1972 Census--	7 280	9 946	84	1 920	3.50	38	74	48	12 760	57	7.90
1971 ASM----	7 073	8 455	83	1 973	3.30	37	73	43	11 992	58	7.31
1970 ASM----	6 342	8 541	83	1 991	2.97	38	75	50	10 397	61	6.24
1969 ASM----	5 842	6 811	86	1 985	2.75	37	75	44	9 496	61	5.55
1968 ASM----	5 666	7 160	83	2 000	2.61	36	74	48	9 505	59	5.66
1967 Census--	5 469	7 150	84	2 007	2.50	37	76	50	8 927	61	5.23
1966 ASM----	5 284	(NA)	82	2 000	2.42	40	80	(NA)	7 848	67	4.75
1965 ASM----	5 106	(NA)	82	2 006	2.37	39	80	(NA)	7 511	67	4.56
1964 ASM----	4 829	5 872	83	2 006	2.24	37	77	47	7 595	63	4.53
1963 Census--	4 683	5 830	83	2 019	2.15	39	79	49	7 185	65	4.25

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3271, CONCRETE BLOCK AND BRICK													
United States	**E1**	**1 273**	**348**	**18.7**	**237.1**	**11.8**	**24.1**	**126.6**	**520.3**	**627.7**	**1 143.8**	**55.5**	**22.8**	**438.5**
New England Division:													
Massachusetts	E2	30	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Connecticut	–	14	3	0.2	2.8	0.1	0.2	1.3	5.7	6.5	12.3	0.2	BB	(D)
Middle Atlantic Division:														
New York	E1	69	6	0.7	9.2	0.4	0.8	4.6	18.3	24.2	42.6	1.4	1.1	25.5
New Jersey	E1	46	11	0.6	7.9	0.4	0.8	4.0	18.4	25.2	43.7	1.8	1.0	21.3
Pennsylvania	–	96	27	1.6	19.8	1.1	2.4	11.6	43.8	52.8	96.6	6.7	EE	(D)
East North Central Division:														
Ohio	–	68	17	1.0	12.5	0.6	1.1	6.0	27.5	31.6	59.5	2.1	1.2	27.6
Indiana	E1	41	12	0.7	9.0	0.4	0.8	4.3	19.9	22.2	41.7	2.4	0.7	13.8
Illinois	–	51	10	0.6	9.4	0.4	0.7	4.9	18.2	22.0	40.2	1.5	0.9	17.4
Michigan	–	68	15	0.9	12.9	0.5	1.1	6.1	30.8	34.1	64.4	3.0	1.1	24.5
Wisconsin	E1	46	13	0.6	8.7	0.4	0.8	4.9	20.2	21.1	40.9	1.4	0.6	12.9
West North Central Division:														
Minnesota	–	46	13	0.7	10.8	0.4	0.9	6.0	21.3	20.4	41.5	2.7	0.5	11.6
Iowa	–	24	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	4.3
Missouri	E1	35	9	0.4	4.8	0.2	0.4	2.1	10.2	13.9	24.0	0.9	0.4	6.8
Nebraska	E2	11	5	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Atlantic Division:														
Maryland	–	25	14	0.6	7.1	0.4	0.8	3.6	15.2	23.7	39.0	(D)	CC	(D)
Virginia	–	33	12	0.6	7.1	0.4	0.9	3.8	15.4	20.0	35.3	1.1	1.0	18.0
West Virginia	E1	21	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	–	44	14	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Carolina	E2	15	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	–	35	12	0.6	6.3	0.4	0.8	3.5	16.1	21.0	36.7	2.8	CC	(D)
Florida	E2	40	8	0.4	4.9	0.3	0.6	2.3	12.1	13.5	25.5	1.1	1.1	20.8
East South Central Division:														
Kentucky	E4	35	10	0.5	5.3	0.3	0.6	2.7	13.5	14.8	28.3	1.3	0.5	9.0
Tennessee	E1	34	12	0.6	6.0	0.4	0.7	3.2	12.2	15.3	27.4	1.6	CC	(D)
Alabama	–	24	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Mississippi	E1	12	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.9
West South Central Division:														
Arkansas	–	19	1	0.2	2.3	0.1	0.3	1.5	6.6	5.5	12.1	(D)	AA	(D)
Oklahoma	E4	16	4	0.3	2.8	0.2	0.3	1.5	6.3	6.1	12.4	(D)	BB	(D)
Texas	E2	46	21	0.8	9.1	0.5	1.1	5.0	19.4	26.3	45.3	2.4	0.9	12.5
Mountain Division:														
Colorado	–	12	5	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
New Mexico	E1	12	8	0.4	4.8	0.2	0.5	2.6	8.1	8.9	16.9	1.0	AA	(D)
Arizona	E1	20	9	0.5	5.8	0.3	0.7	3.4	13.2	16.9	29.7	(D)	0.6	15.8
Utah	–	11	5	0.3	2.7	0.2	0.4	1.7	5.5	6.8	12.2	0.6	AA	(D)
Pacific Division:														
Washington	–	13	4	0.2	3.2	0.1	0.3	1.7	6.8	10.0	16.8	0.5	AA	(D)
California	–	64	23	1.1	17.2	0.7	1.4	10.1	41.0	37.2	77.6	2.5	1.4	28.5
INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.														
United States	**E1**	**3 916**	**862**	**61.7**	**734.9**	**48.1**	**97.2**	**494.5**	**1 529.3**	**1 234.1**	**2 736.2**	**134.4**	**67.7**	**1 190.1**
New England Division:														
Maine	–	18	5	0.2	2.8	0.2	0.4	1.8	5.7	6.6	12.5	0.4	BB	(D)
New Hampshire	E3	22	3	0.2	2.1	0.1	0.2	1.2	4.1	2.9	7.0	0.7	AA	(D)
Vermont	E1	15	1	0.2	1.6	0.1	0.1	0.7	4.1	1.8	5.8	0.1	(NA)	(NA)
Massachusetts	E1	89	13	1.1	14.1	0.9	1.7	10.1	28.2	24.1	52.4	1.0	2.0	35.4
Connecticut	E1	53	9	0.8	9.9	0.6	1.1	6.1	19.1	16.5	35.5	1.2	1.0	20.9
Middle Atlantic Division:														
New York	E1	175	31	2.2	28.3	1.7	3.4	18.8	55.7	44.4	98.5	7.5	3.1	58.6
New Jersey	E2	91	27	1.5	18.2	1.2	2.4	13.0	35.7	28.9	62.9	6.2	2.8	52.2
Pennsylvania	E2	191	43	2.7	31.8	2.1	4.1	21.1	63.3	46.4	108.9	4.3	3.4	56.2
East North Central Division:														
Ohio	E1	194	43	3.3	41.3	2.5	5.1	28.2	86.6	61.1	147.5	9.2	3.6	67.4
Indiana	E1	142	24	1.7	19.3	1.2	2.3	12.2	39.6	32.2	70.6	(D)	1.8	30.7
Illinois	E1	181	40	2.7	37.0	2.0	3.9	23.7	69.8	59.9	127.6	7.8	2.7	54.0
Michigan	E1	167	20	1.6	23.4	1.2	2.5	15.4	53.4	43.3	96.0	3.4	2.4	53.3
Wisconsin	–	98	24	1.3	18.2	1.0	2.2	12.4	37.8	30.3	67.1	4.0	1.6	27.7
West North Central Division:														
Minnesota	E1	125	28	2.2	28.0	1.9	3.7	19.9	62.8	47.9	109.5	6.8	2.2	37.2
Iowa	E1	86	17	1.0	12.5	0.8	1.7	9.1	25.8	19.9	43.8	1.5	1.0	15.8
Missouri	E2	84	13	1.0	11.8	0.8	1.5	7.8	25.3	18.7	43.6	1.7	EE	(D)
North Dakota	–	12	5	0.3	3.4	0.2	0.4	2.0	7.1	4.8	11.9	0.8	0.2	2.7
South Dakota	–	16	4	0.3	3.4	0.2	0.4	2.2	8.1	5.0	13.4	0.4	BB	(D)
Nebraska	–	34	8	0.6	7.5	0.4	0.9	4.3	14.4	12.9	27.1	0.8	CC	(D)
Kansas	E1	49	12	0.7	8.0	0.5	0.9	5.0	16.9	10.6	27.4	0.8	0.7	12.4
South Atlantic Division:														
Maryland	E1	52	18	1.1	14.1	0.9	1.7	9.4	34.4	22.2	54.4	(D)	1.6	32.8
Virginia	–	86	30	2.2	23.5	1.8	3.6	15.8	45.9	34.6	78.1	4.3	2.1	28.9
North Carolina	E1	114	24	1.6	16.3	1.2	2.3	10.0	29.3	22.9	52.0	1.9	1.7	24.4
South Carolina	E1	43	14	1.0	10.1	0.7	1.4	5.8	18.7	15.9	34.9	0.9	CC	(D)
Georgia	E2	119	28	1.8	18.0	1.5	2.8	12.1	37.3	29.7	66.3	(D)	2.0	32.6
Florida	E1	261	63	4.3	44.9	3.4	6.7	30.6	90.4	74.7	163.8	9.1	4.8	67.1

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.—Con.														
East South Central Division:														
Kentucky	E3	50	8	0.7	6.9	0.5	1.0	5.0	15.9	12.0	26.6	2.2	0.5	7.5
Tennessee	E1	92	23	1.6	16.2	1.2	2.3	10.0	31.5	30.5	61.5	3.4	1.5	20.5
Alabama	E2	98	17	1.4	11.5	1.2	2.4	7.6	22.8	22.3	45.0	5.8	1.0	15.7
Mississippi	-	36	15	1.0	9.7	0.8	1.6	6.4	23.4	18.5	42.0	1.5	0.9	15.3
West South Central Division:														
Arkansas	E2	40	6	0.4	3.6	0.3	0.6	2.5	7.2	4.9	12.4	0.4	0.4	7.0
Louisiana	-	53	13	1.4	14.3	1.2	2.4	10.5	25.4	32.8	58.5	(D)	1.3	18.9
Oklahoma	-	50	9	0.7	9.0	0.5	1.1	5.3	18.4	11.7	30.3	0.5	0.6	11.4
Texas	E1	230	57	4.6	48.7	3.7	8.7	33.9	110.0	95.0	201.5	7.6	4.8	73.6
Mountain Division:														
Idaho	-	14	3	0.4	4.8	0.3	0.7	3.8	8.2	8.8	16.8	(D)	0.3	4.0
Colorado	-	55	16	1.5	20.2	1.2	2.4	15.0	36.1	26.6	63.0	2.5	1.4	29.3
New Mexico	E1	23	4	0.2	2.9	0.2	0.4	2.1	7.2	4.7	11.8	0.6	(NA)	(NA)
Arizona	-	44	8	0.8	12.3	0.6	1.3	8.7	26.5	15.8	41.7	2.8	0.9	18.0
Utah	-	30	5	0.6	7.4	0.5	1.1	5.9	18.0	17.8	36.3	1.5	0.5	9.7
Pacific Division:														
Washington	E1	81	15	1.2	16.8	0.9	1.7	10.7	31.6	29.1	60.5	2.8	1.5	29.0
Oregon	E2	59	9	0.8	10.1	0.7	1.2	6.8	21.6	17.2	38.1	1.6	CC	(D)
California	E1	332	87	5.7	75.7	4.2	8.6	50.4	170.0	139.7	307.9	15.1	FF	(D)
Hawaii	E1	15	6	0.4	5.5	0.3	0.6	4.0	12.2	9.1	20.7	1.6	0.2	6.6
INDUSTRY 3273, READY-MIXED CONCRETE														
United States	**E1**	**5 433**	**1 357**	**87.9**	**1 175.8**	**62.0**	**125.3**	**766.6**	**2 693.2**	**3 757.0**	**6 440.6**	**353.1**	**85.7**	**1 756.7**
New England Division:														
Maine	E1	21	8	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	7.8
New Hampshire	-	16	11	0.4	5.7	0.3	0.6	3.9	13.2	14.3	27.4	0.9	0.2	7.5
Vermont	E4	10	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	6.6
Massachusetts	E1	50	14	0.9	12.8	0.6	1.2	8.9	26.8	32.3	59.2	2.4	1.2	30.6
Rhode Island	E1	7	4	0.2	3.0	0.2	0.3	1.8	6.9	7.5	14.5	1.0	0.2	2.9
Connecticut	E1	44	11	0.6	9.2	0.5	0.9	5.9	18.7	24.8	43.4	1.7	0.7	18.3
Middle Atlantic Division:														
New York	E1	193	32	2.9	44.4	2.1	4.0	28.6	84.4	110.1	194.3	7.7	4.5	102.1
New Jersey	E1	80	20	1.5	21.2	0.9	1.8	13.1	42.5	58.3	100.3	2.1	1.7	43.4
Pennsylvania	E1	185	51	2.8	36.2	2.0	4.0	24.7	77.3	114.7	191.8	8.1	2.6	55.9
East North Central Division:														
Ohio	E1	252	64	4.0	55.4	2.8	5.6	36.3	125.0	172.7	297.5	14.8	3.9	84.2
Indiana	-	158	35	2.3	34.3	1.7	3.3	23.0	75.0	91.4	166.1	10.6	2.3	50.0
Illinois	-	263	77	4.2	65.2	3.1	6.1	44.6	141.5	191.2	332.1	19.1	3.9	83.3
Michigan	E1	229	36	2.5	36.3	1.7	3.4	23.2	85.7	101.2	186.7	9.4	3.0	68.8
Wisconsin	E1	168	35	2.1	29.8	1.5	2.9	19.7	64.8	92.9	157.5	9.4	1.9	40.1
West North Central Division:														
Minnesota	E1	142	25	1.7	25.3	1.3	2.5	17.8	48.3	67.0	114.9	7.1	1.4	26.3
Iowa	E1	206	25	1.9	26.4	1.5	2.9	18.1	68.8	82.0	150.6	9.5	1.6	27.8
Missouri	E2	197	36	2.4	28.9	1.8	3.2	19.8	62.0	89.9	151.8	7.8	2.4	42.8
North Dakota	E1	43	8	0.5	6.3	0.4	0.8	4.7	15.0	16.3	31.1	1.5	0.4	5.9
South Dakota	E2	49	4	0.3	4.3	0.3	0.6	3.2	11.1	16.5	27.5	1.5	0.2	4.8
Nebraska	E1	89	17	0.9	11.3	0.6	1.1	6.4	23.0	40.0	62.9	4.3	0.7	15.8
Kansas	E1	133	21	1.4	16.9	1.0	1.8	10.7	33.5	54.3	87.7	6.5	1.0	18.1
South Atlantic Division:														
Delaware	E2	10	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Maryland	-	51	20	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.3	34.6
Virginia	-	127	24	2.1	23.7	1.5	3.0	15.5	56.8	78.5	134.7	7.5	2.3	43.8
West Virginia	E1	57	12	0.7	8.4	0.5	1.0	5.7	20.2	31.1	51.2	(D)	0.8	14.4
North Carolina	-	133	41	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.3	42.1
South Carolina	-	63	20	1.4	14.4	1.0	2.0	9.4	33.4	47.1	80.6	4.5	1.2	18.5
Georgia	E1	127	32	2.3	23.6	1.4	2.7	12.7	57.1	83.8	140.9	9.2	2.8	43.8
Florida	-	199	81	3.8	45.4	2.1	4.5	22.4	124.7	202.6	324.0	11.2	6.4	133.5
East South Central Division:														
Kentucky	E2	106	18	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.1	19.7
Tennessee	E1	96	34	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.6	33.8
Alabama	E2	106	28	1.8	18.3	1.2	2.4	11.4	33.8	57.1	90.8	7.3	1.6	24.2
Mississippi	E1	85	17	1.2	12.2	0.9	1.7	8.0	30.3	42.0	72.4	(D)	1.2	20.3
West South Central Division:														
Arkansas	E2	114	9	0.9	10.0	0.7	1.3	6.8	24.3	38.9	63.1	4.5	0.8	13.5
Louisiana	E1	99	35	2.3	27.1	1.6	3.1	16.4	67.3	97.0	164.2	8.4	2.0	34.2
Oklahoma	E1	141	18	1.6	19.7	1.1	2.3	12.8	49.7	69.3	119.0	10.2	1.4	25.6
Texas	-	364	111	8.3	103.0	6.4	13.4	72.8	260.7	441.9	702.8	42.2	6.4	115.9
Mountain Division:														
Montana	E3	54	7	0.5	6.1	0.4	0.8	4.8	15.2	13.7	28.8	1.8	0.4	8.1
Idaho	E1	45	10	0.9	10.6	0.6	1.2	7.4	24.4	26.9	51.3	3.9	0.6	11.0
Wyoming	E1	38	9	0.7	8.8	0.5	1.0	6.4	18.3	21.7	40.0	1.9	0.4	6.6
Colorado	-	89	24	1.6	23.5	1.1	2.3	16.5	53.7	60.8	114.4	5.6	1.3	30.5
New Mexico	-	42	13	0.8	9.1	0.6	1.1	6.0	18.0	23.3	41.3	2.1	0.6	10.9
Arizona	-	65	23	2.0	30.0	1.4	2.8	21.5	77.9	63.1	141.2	10.7	1.9	44.0
Utah	E2	36	18	1.4	18.0	1.1	2.2	14.2	40.6	44.4	84.5	6.0	0.7	18.1
Nevada	-	28	9	0.6	11.7	0.3	0.6	6.1	27.0	24.8	51.8	2.4	0.5	12.9
Pacific Division:														
Washington	E1	93	35	2.3	34.9	1.5	3.0	21.6	72.7	82.2	154.7	10.8	1.7	28.9
Oregon	-	73	24	1.7	22.5	1.1	2.1	14.5	52.2	56.0	108.2	5.9	EE	(D)
California	E1	428	133	7.3	124.0	4.7	12.0	75.1	288.8	449.3	737.3	38.0	7.4	171.8
Alaska	E1	18	2	0.2	3.4	0.2	0.3	2.5	4.7	13.7	18.4	(D)	AA	(D)
Hawaii	-	9	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3274, LIME														
United States	-	94	63	5.9	75.4	4.8	9.8	59.4	218.2	264.8	484.2	29.7	5.7	129.3
Middle Atlantic Division:														
Pennsylvania	-	8	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East North Central Division:														
Ohio	-	10	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	19.2
Illinois	-	5	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West North Central Division:														
Missouri	-	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Atlantic Division:														
Virginia	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central Division:														
Alabama	-	9	6	0.4	6.0	0.4	0.8	4.6	16.2	23.8	40.0	5.3	BB	(D)
West South Central Division:														
Arkansas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	6	6	0.7	7.3	0.6	1.1	4.9	19.8	19.6	39.4	2.1	0.5	9.5
Pacific Division:														
California	-	6	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	5.2
INDUSTRY 3275, GYPSUM PRODUCTS														
United States	-	128	81	9.5	143.6	7.6	17.3	111.5	429.6	565.6	1 000.0	31.9	11.2	325.1
Middle Atlantic Division:														
New York	-	10	6	0.8	11.9	0.6	1.5	9.2	23.6	42.0	66.6	4.4	1.4	28.7
New Jersey	-	7	3	0.3	4.5	0.2	0.4	3.0	8.6	19.1	28.6	1.5	BB	(D)
East North Central Division:														
Ohio	-	7	5	0.5	6.6	0.4	0.8	5.3	15.1	23.0	38.1	0.9	0.4	12.8
Indiana	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Illinois	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Michigan	-	4	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West North Central Division:														
Iowa	-	5	5	0.8	11.8	0.6	1.5	9.4	42.4	36.6	78.9	3.3	CC	(D)
Kansas	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Maryland	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Virginia	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	17.2
Florida	-	4	3	0.4	5.6	0.3	0.7	4.5	18.8	21.5	40.3	1.2	CC	(D)
West South Central Division:														
Arkansas	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Oklahoma	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Texas	-	10	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.0	29.6
Mountain Division:														
Wyoming	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Utah	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Nevada	-	3	3	0.4	6.0	0.3	0.7	4.9	13.9	18.5	32.5	1.7	0.4	7.5
Pacific Division:														
California	-	23	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
INDUSTRY 3281, CUT STONE AND STONE PRODUCTS														
United States	E1	993	164	12.7	131.5	10.6	21.4	98.8	236.2	157.5	393.0	10.4	15.0	191.4
New England Division:														
New Hampshire	-	8	3	0.2	2.5	0.2	0.4	1.6	4.1	2.0	6.0	0.3	BB	(D)
Vermont	-	74	19	1.4	17.0	1.2	2.3	13.0	29.0	24.0	52.8	0.8	2.0	27.7
Massachusetts	-	27	2	0.3	3.8	0.3	0.5	2.5	6.2	3.0	9.3	0.1	0.5	7.0
Middle Atlantic Division:														
New York	E2	64	9	0.7	7.3	0.5	1.0	5.0	14.0	9.2	23.1	0.5	CC	(D)
Pennsylvania	E2	43	5	0.5	4.8	0.4	0.9	3.7	8.7	4.3	13.0	0.3	CC	(D)
East North Central Division:														
Ohio	E1	54	6	0.6	6.2	0.5	1.1	5.0	14.3	7.7	22.0	0.5	CC	(D)
Indiana	E1	35	9	0.7	7.0	0.6	1.2	5.8	12.9	4.5	17.2	0.4	CC	(D)
Illinois	E1	31	6	0.4	4.9	0.4	0.7	3.6	8.8	6.5	15.3	0.4	BB	(D)
Michigan	E2	22	1	0.2	1.5	0.2	0.3	1.2	3.3	1.3	4.5	0.1	0.2	2.9
Wisconsin	E2	20	4	0.2	1.7	0.2	0.3	1.4	2.2	2.4	4.5	0.1	0.3	3.6
West North Central Division:														
Minnesota	-	30	13	0.9	13.7	0.7	1.5	10.0	21.5	19.0	40.0	0.6	1.2	21.5
Missouri	E1	24	6	0.4	4.5	0.3	0.6	3.1	7.3	5.1	12.5	0.7	BB	(D)
South Dakota	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	-	13	4	0.2	1.9	0.2	0.3	1.5	4.2	2.0	6.1	0.3	0.2	1.7
South Atlantic Division:														
Virginia	-	11	3	0.2	1.4	0.2	0.3	1.0	3.3	1.6	4.9	(D)	0.2	2.1
North Carolina	E1	32	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	5.4
Georgia	E1	107	29	1.9	17.8	1.6	3.6	13.9	32.7	17.2	49.3	1.6	2.3	24.6
Florida	E3	32	1	0.2	1.4	0.1	0.3	1.1	2.6	1.9	4.3	0.2	(NA)	(NA)
East South Central Division:														
Tennessee	-	20	4	0.2	2.2	0.2	0.4	1.6	4.3	3.4	7.7	0.2	0.4	3.4
Mississippi	-	9	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Texas	E3	70	7	0.6	5.6	0.5	1.0	4.2	10.0	6.5	16.5	0.4	0.7	7.4
Pacific Division:														
California	E1	57	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Concrete block and brick (SIC 3271)	Concrete products, n.e.c. (SIC 3272)	Ready-mixed concrete (SIC 3273)	Lime (SIC 3274)	Gypsum products (SIC 3275)	Cut stone and stone products (SIC 3281)
Primary product specialization ratio[1]	percent	93	96	93	92	96	96
Coverage ratio[2]	do	85	95	98	92	98	95
All establishments	number	1 273	3 916	5 433	94	128	993
With 1 to 19 employees	do	925	3 054	4 076	31	47	829
With 20 to 99 employees	do	346	763	1 278	40	33	149
With 100 employees or more	do	2	99	79	23	48	15
All employees, average for year	1,000	18.7	61.7	87.9	5.9	9.5	12.7
Payroll for year, all employees	mil. dol.	237.1	734.9	1 175.8	75.4	143.6	131.5
Production workers:							
Average for year	1,000	11.8	48.1	62.0	4.8	7.6	10.6
March	do	10.7	42.5	55.1	4.7	7.3	10.2
May	do	11.9	48.3	63.6	4.9	7.5	10.8
August	do	12.5	52.1	66.3	4.9	7.7	10.8
November	do	11.9	48.8	62.9	4.9	7.8	10.4
Hours	millions	24.1	97.2	125.3	9.8	17.3	21.4
January to March	do	5.1	20.3	25.1	2.4	4.0	4.8
April to June	do	5.3	24.7	33.0	2.4	4.4	5.7
July to September	do	7.2	27.4	35.8	2.5	4.5	5.6
October to December	do	6.5	24.8	31.3	2.5	4.5	5.4
Wages	mil. dol.	126.6	494.5	766.6	59.4	111.5	98.8
Cost of materials, etc.	do	627.7	1 234.1	3 757.0	264.8	565.6	157.5
Materials, parts, containers, etc., consumed	do	404.3	1 019.8	3 296.5	95.1	424.0	131.1
Resales	do	182.8	122.0	298.2	6.4	37.6	7.8
Fuels consumed	do	24.9	35.1	92.5	139.5	79.2	5.7
Purchased electric energy	do	10.4	18.1	31.9	20.8	24.4	7.8
Contract work	do	5.3	39.0	37.9	3.0	0.4	5.1
Value of shipments, including resales	do	1 143.8	2 736.2	6 440.6	484.2	1 000.0	393.0
Value of resales	do	212.1	129.5	321.3	7.5	44.0	6.9
Value added by manufacture	do	520.3	1 529.3	2 693.2	218.2	429.6	238.2
Manufacturers' inventories:							
Beginning of year	do	118.4	357.0	193.7	39.0	66.6	50.0
Finished products	do	96.0	204.4	59.3	7.4	19.0	20.2
Work in process	do	2.0	36.4	4.8	3.8	5.5	11.4
Materials, supplies, fuel, etc.	do	20.4	116.2	129.6	27.8	42.1	18.4
End of year	do	124.0	389.7	231.5	47.2	72.4	53.8
Finished products	do	100.1	224.9	67.8	6.9	14.6	21.6
Work in process	do	2.2	43.0	5.9	3.1	5.1	12.7
Materials, supplies, fuel, etc.	do	21.7	121.8	157.8	37.3	52.7	19.6
Capital expenditures for plant and equipment	do	60.5	145.4	395.6	31.7	34.2	13.0
New capital expenditures	do	55.5	134.4	353.1	29.7	31.9	10.4
New buildings and other structures	do	9.8	30.2	54.1	6.9	4.9	2.1
New machinery and equipment	do	45.8	104.2	299.0	22.9	27.0	8.3
Used capital expenditures	do	4.9	10.9	42.5	1.9	2.3	2.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Concrete block and brick (SIC 3271)		Concrete products, n.e.c. (SIC 3272)		Ready-mixed concrete (SIC 3273)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	(1.8)	20	(4.0)	28	(13.0)	25
Response coverage ratio[2] (percent)	55	(X)	52	(X)	60	(X)
Machinery	(20.2)	17	30.2	11	(110.5)	28
Response coverage ratio[2] (percent)	56	(X)	47	(X)	57	(X)
Cost of purchased communication services	(2.6)	18	7.4	12	(14.2)	15
Response coverage ratio[2] (percent)	63	(X)	52	(X)	66	(X)
Rental payments	(10.2)	15	25.8	10	47.6	10
Buildings and other structures	(5.0)	23	(8.6)	20	(7.8)	15
Machinery and equipment	(5.2)	19	17.1	10	39.8	11
Supplemental labor costs	33.6	4	120.2	4	199.4	4
Legal costs	19.1	4	74.1	6	108.7	4
Voluntary costs	14.5	7	46.1	4	90.7	6
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	98.3	8	246.5	5	354.9	6
New capital expenditures	(11.4)	20	29.7	12	61.4	12
Used capital expenditures	(0.1)	68	1.1	11	(8.6)	46
Retirements	(4.9)	29	(9.2)	23	11.5	12
End of year	104.9	8	268.1	4	413.4	5
Machinery and equipment:						
Beginning of year	413.3	5	812.4	2	2,014.2	5
New capital expenditures	50.8	12	114.6	10	400.1	5
Automobiles, trucks, etc., for highway use[3]	(10.3)	(A)	(9.2)	(A)	160.0	13
Computers and peripheral data processing equipment[3]	(0.8)	(A)	(0.5)	(A)	(7.9)	(A)
All other[3]	(18.7)	(A)	(45.5)	44	145.3	14
New machinery and equipment, n.s.k.[4]	(21.1)	95	(59.4)	34	(86.9)	23
Used capital expenditures	(6.5)	47	(6.3)	18	(48.4)	17
Retirements	15.0	13	38.3	7	117.8	7
End of year	455.6	4	895.1	2	2,344.8	1
Total gross value of depreciable assets:						
Beginning of year	511.8	2	1,058.8	1	2,368.9	1
New capital expenditures	62.2	12	144.3	10	461.5	4
Used capital expenditures	(6.5)	47	(7.4)	15	(57.0)	18
Retirements	19.9	13	47.3	7	129.3	7
End of year	560.7	3	1,163.2	2	2,758.3	1
Depreciation charges during 1977	44.9	10	88.3	3	238.6	6
Buildings and other structures	5.6	14	13.8	6	28.4	13
Machinery and equipment	39.3	10	74.5	3	210.2	5

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Lime (SIC 3274)		Gypsum products (SIC 3275)		Cut stone and stone products (SIC 3281)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	4.1	3	4.9	3	(0.8)	21
Response coverage ratio[2] (percent)	49	(X)	55	(X)	57	(X)
Machinery	(6.0)	29	9.5	5	(4.7)	21
Response coverage ratio[2] (percent)	51	(X)	59	(X)	46	(X)
Cost of purchased communication services	0.6	13	1.0	11	(1.2)	29
Response coverage ratio[2] (percent)	30	(X)	57	(X)	57	(X)
Rental payments	1.6	13	4.4	4	(4.0)	17
Buildings and other structures	-	(X)	0.6	14	(2.8)	25
Machinery and equipment	1.6	13	3.8	3	(1.3)	32
Supplemental labor costs	18.7	6	27.1	1	16.9	6
Legal costs	7.5	10	12.5	1	10.5	4
Voluntary costs	11.2	4	14.6	2	6.4	11
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	46.3	7	221.2	2	34.4	10
New capital expenditures	(3.7)	15	4.7	4	(1.8)	41
Used capital expenditures	-	(X)	(0.5)	(A)	(0.4)	42
Retirements	(1.6)	45	1.3	10	(0.9)	26
End of year	48.4	5	225.2	2	35.7	10
Machinery and equipment:						
Beginning of year	329.3	2	345.6	3	111.1	8
New capital expenditures	24.0	9	27.0	1	(8.2)	19
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(D)	(A)
All other[3]	(18.7)	(A)	(24.2)	83	(4.9)	(A)
New machinery and equipment, n.s.k.[4]	(4.4)	(A)	(1.2)	(A)	(2.0)	(A)
Used capital expenditures	1.6	1	1.4	6	(2.7)	40
Retirements	4.7	9	10.2	2	4.8	12
End of year	350.2	2	363.8	2	117.2	8
Total gross value of depreciable assets:						
Beginning of year	375.5	2	566.9	2	145.6	8
New capital expenditures	27.7	8	31.7	2	(10.1)	18
Used capital expenditures	1.6	1	(1.9)	56	(3.1)	37
Retirements	6.2	11	11.4	3	5.8	14
End of year	398.6	2	589.0	2	152.9	8
Depreciation charges during 1977	22.1	3	21.9	2	11.0	7
Buildings and other structures	1.8	14	5.8	3	1.5	10
Machinery and equipment	20.4	3	16.1	2	9.4	8

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3271, CONCRETE BLOCK AND BRICK												
Total	**E1**	**1 273**	**18.7**	**237.1**	**11.8**	**24.1**	**126.6**	**520.3**	**627.7**	**1 143.8**	**55.5**	**124.0**
Establishments with an average of—												
1 to 4 employees	E6	340	0.6	7.3	0.5	0.8	4.0	19.1	21.6	40.8	2.2	4.4
5 to 9 employees	E2	237	1.6	21.1	1.1	2.2	12.1	52.0	59.0	110.4	4.8	13.3
10 to 19 employees	-	348	4.9	60.2	3.1	6.3	31.9	134.3	169.4	303.1	15.8	33.7
20 to 49 employees	-	309	9.0	113.3	5.6	11.6	61.2	245.6	301.3	544.3	25.2	56.7
50 to 99 employees	-	37	(2.7)	(35.2)	(1.6)	(3.2)	(17.4)	(69.5)	(76.4)	(145.2)	(7.6)	(15.9)
100 to 249 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	314	0.7	8.7	0.5	1.0	4.7	19.3	22.2	41.5	2.1	4.2
INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.												
Total	**E1**	**3 916**	**61.7**	**734.9**	**48.1**	**97.2**	**494.5**	**1 529.3**	**1 234.1**	**2 736.2**	**134.4**	**389.7**
Establishments with an average of—												
1 to 4 employees	E7	1 823	2.9	33.7	2.7	4.7	22.7	77.3	57.7	137.3	5.3	17.5
5 to 9 employees	E4	622	4.2	48.6	3.2	6.3	32.7	100.8	80.3	180.4	7.2	22.0
10 to 19 employees	E1	609	8.4	93.1	6.4	12.3	61.1	202.7	156.1	357.2	14.4	44.9
20 to 49 employees	-	556	17.0	201.8	12.8	25.9	131.1	419.3	346.9	758.6	45.3	107.7
50 to 99 employees	E1	207	14.0	168.1	11.0	22.3	115.9	357.7	275.4	622.2	24.9	93.1
100 to 249 employees	-	92	12.7	160.3	9.8	21.2	108.4	320.3	261.9	576.6	26.9	86.1
250 to 499 employees	-	6	(2.6)	(29.4)	(2.2)	(4.5)	(22.6)	(51.0)	(55.7)	(104.0)	(10.5)	(18.5)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	1 745	4.1	46.7	3.6	6.5	31.4	101.4	75.8	177.2	6.8	23.4
INDUSTRY 3273, READY-MIXED CONCRETE												
Total	**E1**	**5 433**	**87.9**	**1 175.8**	**62.0**	**125.3**	**766.6**	**2 693.2**	**3 757.0**	**6 440.6**	**353.1**	**231.5**
Establishments with an average of—												
1 to 4 employees	E5	1 754	3.5	45.8	3.1	5.2	32.0	138.0	182.9	321.0	18.8	9.8
5 to 9 employees	E2	1 100	7.5	97.6	5.5	10.8	66.2	247.4	352.3	598.8	29.5	19.3
10 to 19 employees	-	1 222	16.9	216.8	12.0	23.6	142.8	517.8	754.0	1 269.8	62.3	42.2
20 to 49 employees	-	1 038	30.6	412.2	20.8	44.2	259.7	933.0	1 301.4	2 228.9	120.9	74.8
50 to 99 employees	E1	240	15.8	214.5	11.1	21.6	141.2	463.5	617.4	1 079.7	62.4	42.0
100 to 249 employees	-	70	9.9	141.0	6.9	14.2	93.6	304.0	394.4	698.4	49.1	29.4
250 to 499 employees	-	9	3.7	47.9	2.6	5.7	31.1	89.5	154.6	244.0	10.1	14.0
Covered by administrative records[2]	E0	1 432	4.1	50.4	3.4	5.9	34.0	117.1	162.7	279.8	16.4	8.6
INDUSTRY 3274, LIME												
Total	**-**	**94**	**5.9**	**75.4**	**4.8**	**9.8**	**59.4**	**218.2**	**264.8**	**484.2**	**29.7**	**47.2**
Establishments with an average of—												
1 to 4 employees	E7	18	(Z)	0.4	(Z)	0.1	0.3	1.7	1.7	3.4	0.5	0.3
5 to 9 employees	E4	7	(Z)	0.6	(Z)	0.1	0.5	3.3	1.2	4.5	0.1	0.3
10 to 19 employees	E1	6	0.1	1.1	0.1	0.1	1.0	3.5	2.1	5.7	0.4	0.4
20 to 49 employees	-	24	0.8	12.7	0.7	1.5	10.3	38.8	74.0	113.6	4.3	12.8
50 to 99 employees	-	16	1.1	14.9	0.9	1.8	10.8	46.2	59.0	105.3	6.7	9.3
100 to 249 employees	-	22	(3.8)	(45.7)	(3.1)	(6.2)	(36.6)	(124.6)	(126.8)	(251.8)	(17.7)	(24.0)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	22	0.1	1.0	0.1	0.1	0.8	2.5	2.6	5.1	0.4	0.5
INDUSTRY 3275, GYPSUM PRODUCTS												
Total	**-**	**128**	**9.5**	**143.6**	**7.6**	**17.3**	**111.5**	**429.6**	**565.6**	**1 000.0**	**31.9**	**72.4**
Establishments with an average of—												
1 to 4 employees	E9	26	(Z)	0.6	(Z)	0.1	0.4	1.3	2.1	3.4	0.2	0.3
5 to 9 employees	E6	10	0.1	0.7	(Z)	0.1	0.5	1.8	2.3	4.1	0.1	0.4
10 to 19 employees	-	11	0.1	1.7	0.1	0.2	1.1	5.5	11.2	16.7	0.2	1.5
20 to 49 employees	-	9	0.3	3.0	0.2	0.5	2.1	6.5	19.9	27.2	0.3	2.4
50 to 99 employees	-	24	1.9	31.5	1.5	3.5	24.7	108.2	148.7	259.0	8.0	17.4
100 to 249 employees	-	46	(7.1)	(106.0)	(5.7)	(13.0)	(82.7)	(306.3)	(381.3)	(689.5)	(23.1)	(50.4)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	31	0.1	1.2	0.1	0.2	0.9	2.7	4.2	6.8	0.2	0.6
INDUSTRY 3281, CUT STONE AND STONE PRODUCTS												
Total	**E1**	**993**	**12.7**	**131.5**	**10.6**	**21.4**	**98.8**	**238.2**	**157.5**	**393.0**	**10.4**	**53.8**
Establishments with an average of—												
1 to 4 employees	E7	476	0.9	8.7	0.9	2.0	6.4	19.8	12.6	32.2	0.8	4.0
5 to 9 employees	E3	178	1.2	11.8	1.0	2.0	8.8	23.1	17.1	40.0	0.9	4.8
10 to 19 employees	-	175	2.4	23.2	2.0	3.8	17.3	42.7	35.0	77.0	1.8	8.4
20 to 49 employees	E1	119	3.5	34.2	2.8	5.8	25.6	64.0	37.1	100.6	3.5	13.8
50 to 99 employees	-	30	2.1	21.3	1.7	3.3	15.9	40.1	24.0	63.7	1.3	7.8
100 to 249 employees	-	13	(2.7)	(32.3)	(2.2)	(4.5)	(24.8)	(48.4)	(31.7)	(79.5)	(2.1)	(15.0)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	426	1.0	9.9	1.0	1.8	7.4	20.6	12.3	33.0	0.7	4.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3271	**Concrete block and brick:**										
	Entire industry	1 273	18.7	237.1	11.8	24.1	126.6	520.3	627.7	1 143.8	55.5
	Establishments with 75 percent specialization or more	1 178	16.6	209.8	10.4	21.1	109.8	461.4	561.4	1 019.0	49.4
3272	**Concrete products, n.e.c.:**										
	Entire industry	3 916	61.7	734.9	48.1	97.2	494.5	1 529.3	1 234.1	2 736.2	134.4
	Establishments with 75 percent specialization or more	3 781	57.4	683.1	44.9	91.0	460.4	1 436.1	1 127.7	2 537.1	127.2
32721	Concrete pipe:										
	Establishments with this product class primary	412	16.7	211.2	12.9	26.6	143.4	514.1	396.1	897.8	49.3
	Establishments with 75 percent specialization or more in class	359	14.2	180.8	11.0	22.7	123.4	456.3	345.2	789.9	44.7
32722	Precast concrete products:										
	Establishments with this product class primary	825	19.9	235.0	15.0	29.9	150.8	447.1	353.2	792.4	37.2
	Establishments with 75 percent specialization or more in class	726	15.9	184.7	12.0	24.0	118.7	350.9	263.7	610.1	29.8
32723	Prestressed concrete products:										
	Establishments with this product class primary	177	11.0	132.9	8.8	19.0	95.8	236.3	229.6	459.1	16.5
	Establishments with 75 percent specialization or more in class	138	7.4	86.0	6.0	12.2	63.6	157.1	155.7	307.7	12.0
3273	**Ready-mixed concrete:**										
	Entire industry	5 433	87.9	1 175.8	62.0	125.3	766.6	2 693.2	3 757.0	6 440.6	353.1
	Establishments with 75 percent specialization or more	5 043	74.5	1 004.7	52.7	106.4	654.9	2 326.9	3 316.1	5 635.1	301.0
3274	**Lime:**										
	Entire industry	94	5.9	75.4	4.8	9.8	59.4	218.2	264.8	484.2	29.7
	Establishments with 75 percent specialization or more	84	5.0	64.1	4.1	8.4	50.9	182.3	234.5	418.0	24.8
3275	**Gypsum products:**										
	Entire industry	128	9.5	143.6	7.6	17.3	111.5	429.6	565.6	1 000.0	31.9
	Establishments with 75 percent specialization or more	122	9.3	140.6	7.4	17.0	109.4	423.9	551.9	979.8	(D)
32751	Gypsum building materials:										
	Establishments with this product class primary	85	9.0	136.3	7.2	16.4	106.2	404.7	543.6	953.1	29.7
	Establishments with 75 percent specialization or more in class	79	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32752	Other gypsum products:										
	Establishments with this product class primary	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3281	**Cut stone and stone products:**										
	Entire industry	993	12.7	131.5	10.6	21.4	98.8	238.2	157.5	393.0	10.4
	Establishments with 75 percent specialization or more	966	11.9	123.5	10.0	19.9	92.8	220.3	144.4	362.9	9.3
32811	Cut granite and granite products:										
	Establishments with this product class primary	161	4.9	54.6	4.0	8.6	41.0	96.5	68.0	162.9	3.7
	Establishments with 75 percent specialization or more in class	158	4.8	53.4	3.9	8.1	40.2	93.6	65.4	157.7	(D)
32812	Cut limestone and limestone products:										
	Establishments with this product class primary	68	1.6	18.0	1.3	2.4	13.5	35.3	18.9	53.6	1.8
	Establishments with 75 percent specialization or more in class	60	1.3	14.5	1.0	2.0	10.6	26.5	14.1	40.2	(D)
32813	Cut marble and other cut stone products:										
	Establishments with this product class primary	125	3.0	29.3	2.6	5.1	22.5	50.2	34.3	84.3	2.3
	Establishments with 75 percent specialization or more in class	110	2.7	26.4	2.3	4.6	20.5	44.4	30.9	75.2	1.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3271	Concrete block and brick....1977..	1,143.8	858.6	61.8	223.4	93	1,005.1	858.6	146.5	85
	1972..	855.7	676.9	51.1	127.7	93	795.7	676.9	118.8	85
	1967..	550.1	433.0	40.6	76.4	92	502.1	433.0	69.1	86
3272	Concrete products, n.e.c....1977..	2,736.2	2,461.7	90.1	184.5	96	2,596.1	2,461.7	134.4	95
	1972..	1,961.4	1,775.5	76.4	109.5	96	1,864.7	1,775.5	89.2	95
	1967..	1,201.1	1,076.6	44.6	79.9	96	1,147.5	1,076.6	70.9	94
3273	Ready-mixed concrete....1977..	6,440.6	5,592.2	402.6	445.8	93	5,679.9	5,592.2	87.7	98
	1972..	4,050.9	3,494.1	282.0	274.8	93	3,578.8	3,494.1	84.7	98
	1967..	2,684.2	2,283.8	182.2	218.2	93	2,330.5	2,283.8	46.7	98
3274	Lime....1977..	484.2	433.9	40.2	10.1	92	473.5	433.9	39.6	92
	1972..	238.1	212.3	23.4	2.3	90	231.4	212.3	19.1	92
	1967..	176.5	152.4	21.7	2.4	87	163.5	152.4	11.1	93
3275	Gypsum products....1977..	1,000.0	916.1	38.2	45.7	96	932.1	916.1	16.0	98
	1972..	640.3	579.6	27.9	32.8	95	583.1	579.6	3.5	99
	1967..	387.7	356.9	13.9	16.9	96	362.4	356.9	5.5	98
3281	Cut stone and stone products....1977..	393.0	365.3	16.3	11.4	96	385.5	365.3	20.2	95
	1972..	304.5	281.4	12.4	10.7	96	286.8	281.4	5.4	98
	1967..	236.4	210.1	12.0	14.2	95	211.4	210.1	1.3	99

n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Concrete block and brick (SIC 3271)	Concrete products, n.e.c. (SIC 3272)	Ready-mixed concrete (SIC 3273)	Lime (SIC 3274)	Gypsum products (SIC 3275)	Cut stone and stone products (SIC 3281)	Other industries
	Total	(X)	1,143.8	2,736.2	6,440.6	484.2	1,000.0	393.0	(X)
	Primary products	(X)	858.6	2,461.7	5,592.2	433.9	916.1	365.3	(X)
	Secondary products	(X)	61.8	90.1	402.6	40.2	38.2	16.3	(X)
	Miscellaneous receipts	(X)	223.4	184.5	445.8	10.1	45.7	11.4	(X)
32710	Concrete block and brick	1,005.1	858.6	35.8	105.7	-	-	(D)	(D)
3272-	Concrete products, n.e.c	2,596.1	27.5	2,461.7	81.2	-	-	(Z)	25.7
32721	Concrete pipe	843.8	5.6	810.5	18.1	-	-	-	9.6
32722	Precast concrete products	772.6	19.3	696.3	48.2	-	-	(Z)	8.8
32723	Prestressed concrete products	423.6	(D)	403.3	12.8	-	-	-	(D)
32720	Concrete products, n.e.c., n.s.k	556.1	(D)	551.5	2.1	-	-	-	(D)
32730	Ready-mixed concrete	5,679.9	23.5	(D)	5,592.2	-	-	(D)	45.1
32740	Lime	473.5	-	-	(D)	433.9	-	(D)	(D)
3275-	Gypsum products	932.1	-	-	-	-	916.1	-	16.0
32751	Gypsum building materials	864.9	-	-	-	-	851.1	-	13.7
32752	Other gypsum products	54.0	-	-	-	-	(D)	-	(D)
32750	Gypsum products, n.s.k	13.3	-	-	-	-	(D)	-	(D)
3281-	Cut stone and stone products	385.5	0.6	2.2	3.3	(D)	-	365.3	(D)
32811	Cut granite and granite products	164.4	(Z)	(D)	(D)	-	-	161.9	(D)
32812	Cut limestone and limestone products	53.3	(D)	(D)	1.7	(D)	-	45.0	5.2
32813	Cut marble and other cut stone products	83.6	(D)	1.0	(D)	-	-	75.2	6.2
32810	Cut stone and stone products, n.s.k	84.2	-	-	(D)	-	-	83.3	(D)
	Other shipments by 4-digit product group:								
1411-	Dimension stone	(X)	-	-	-	-	-	3.3	(X)
1422-	Crushed and broken limestone	(X)	(D)	(Z)	19.4	23.4	-	1.3	(X)
1423-	Crushed and broken granite	(X)	-	-	2.7	-	-	(D)	(X)
1429-	Crushed and broken stone, n.e.c	(X)	(Z)	(D)	10.2	-	-	.6	(X)
1442-	Construction sand and gravel	(X)	2.1	4.3	116.6	-	-	-	(X)
1492-	Gypsum	(X)	-	-	-	-	13.4	-	(X)
2851-	Paints and allied products	(X)	-	(D)	-	-	2.7	-	(X)
2891-	Adhesives and sealants	(X)	-	(D)	-	-	-	-	(X)
2951-	Paving mixtures and blocks	(X)	.2	4.1	(D)	-	-	(D)	(X)
3241-	Cement, hydraulic	(X)	.2	(Z)	(D)	(D)	.7	(D)	(X)
3259-	Structural clay products, n.e.c	(X)	(D)	(D)	-	-	-	-	(X)
3295-	Minerals, ground or treated	(X)	(D)	(D)	(D)	-	16.1	.2	(X)
3297-	Nonclay refractories	(X)	-	-	-	12.1	-	-	(X)
3299-	Nonmetallic mineral products, n.e.c	(X)	(D)	(D)	2.8	-	-	-	(X)
3449-	Miscellaneous metal work	(X)	(D)	(D)	(D)	-	(D)	-	(X)
3499-	Fabricated metal products, n.e.c	(X)	-	(D)	0.8	-	-	(D)	(X)
3559-	Special industry machinery, n.e.c	(X)	-	(D)	-	-	-	-	(X)
	Miscellaneous receipts:								
93000 00	Contract work	(X)	2.1	24.6	42.0	(D)	(D)	1.5	(X)
99980 00	Other miscellaneous receipts	(X)	9.2	30.4	82.6	(D)	(D)	3.0	(X)
99989 00	Resales	(X)	212.1	129.5	321.3	7.5	44.0	6.9	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3272-	2952 Asphalt felts and coatings	(D)
3273-	1422 Crushed and broken limestone	(D)
	2951 Paving mixtures and blocks	24.7

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3274-	1422 Crushed and broken limestone	12.6
	3297 Nonclay refractories	(D)
3275-	2851 Paints and allied products	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CONCRETE BLOCK AND BRICK						
3271- --	Total		(NA)	(X)	1,005.1	(X)	795.7
32710 --	Concrete block and brick:						
	Structural block:						
32710 11	Light-weight units made with concrete weighing less than 105 lb per cubic foot (dry weight)	Million blocks 8"x8"x16" equivalent.	388	*725.8	321.3	2,647.8	574.8
32710 15	Medium-weight units made with concrete weighing at least 105 lb, but less than 125 lb per cubic foot (dry weight)		141	*230.4	91.3		
32710 17	Normal-weight units made with concrete weighing at least 125 lb per cubic foot (dry weight)		315	**731.8	234.7		
32710 18	Decorative block (such as screen block, split block, slump block, shadowal block, etc.)	Million blocks	96	**102.5	48.3	90.2	29.9
32710 51	Concrete brick	Million bricks	60	**526.7	32.8	420.7	22.3
32710 00	Concrete block and brick, n.s.k., typically for establishments with 5 employees or more (see note)		356	(X)	[3]235.2	(X)	107.0
32710 02	Concrete block and brick, n.s.k., typically for establishments with less than 5 employees (see note)			(X)	41.5	(X)	61.7
	CONCRETE PRODUCTS, N.E.C.						
3272- --	Total		(NA)	(X)	2.596.1	(X)	1,864.7
32721 --	Concrete pipe		(NA)	(X)	843.8	(X)	565.3
	Culvert pipe:						
	Reinforced:						
32721 12	36 inches or more	1,000 s. tons.	64	**692.0	42.0	1,689.2	59.5
32721 14	Less than 36 inches		60	704.6	38.5	1,277.1	47.1
32721 17	Nonreinforced		31	*218.1	10.7	251.7	8.2
	Storm sewer pipe:						
	Reinforced:						
32721 21	36 inches or more		85	1,904.5	110.4	1,626.7	62.0
32721 24	Less than 36 inches		87	1,832.8	108.4	1,035.3	39.2
32721 25	Nonreinforced		28	223.7	11.0	165.3	6.0
	Sanitary sewer pipe:						
	Reinforced:						
32721 26	24 inches or more		50	1,355.8	87.5	1,430.9	58.2
32723 27	Less than 24 inches		50	517.9	32.3	484.3	18.4
32721 30	Nonreinforced	1,000 s. tons.	27	256.8	15.5	308.0	12.9
	Pressure pipe:						
32721 31	Reinforced concrete pressure pipe	Mil. lin. ft..	7	.3	16.8	1.3	33.4
32721 32	Prestressed concrete cylinder pipe		6	3.5	103.8	2.3	80.9
32721 36	Pretensioned concrete cylinder pipe		3	**1.7	46.0	2.9	16.5
32721 39	Other pressure pipe, including reinforced concrete cylinder pipe and prestressed concrete noncylinder pipe	Mil. lin. ft..	7	(S)	27.3	(S)	.8
32721 51	Irrigation pipe and drain tile	1,000 s. tons.	38	**415.2	21.1	492.2	13.5
32721 98	Other concrete pipe, such as manholes and conduits	1,000 s. tons.	131	(S)	107.9	2,058.3	70.4
32721 00	Concrete pipe, n.s.k		(NA)	(X)	64.5	(X)	38.3
32722 --	Precast concrete products		(NA)	(X)	[3]772.6	(X)	536.8
	Roof and floor units:						
32722 13	Slabs and tile	Mil. sq. ft...	42	**39.0	84.4	19.8	35.1
32722 17	Joists and beams	Mil. lin. ft..	17	(S)	12.3	.6	6.9
32722 23	Architectural wall panels	Mil. sq. ft...	82	**13.6	75.3	23.9	108.2
32722 25	Piling, posts, and poles	Mil. lin. ft..	14	(S)	11.6	2.8	7.1
32722 27	Cast stone (products for architectural purposes except architectural wall panels, such as window sills, ashlar, coping, lintels, and other trim)		32	(X)	10.8	(X)	18.2
32722 28	Prefabricated building systems, primarily concrete, sold as complete units and shipped in panel or modular form	Mil. sq. ft... floor area.	24	**4.5	40.8	4.4	15.7
32722 29	Other precast concrete construction or building products, including prefabricated housing components, reinforced columns, etc		103	(X)	80.1	(X)	68.6
	Burial vaults and boxes:						
32722 33	Vaults	1,000 units...	217	(S)	96.9	637.3	64.8
32722 35	Boxes		26	*135.5	11.8	140.0	8.5
32722 41	Silo staves		21	**6,142.2	23.4	12,288.0	23.4
32722 61	Septic tanks	1,000 units...	137	(S)	53.0	289.5	34.1
32722 71	Dry-mixed concrete materials, including prepackaged sand, gravel and cement, mortar and cement premixes	1,000 s. tons.	126	(S)	109.2	1,926.5	51.1
32722 98	Other precast concrete products, except construction or building products, including garden furniture, storage tanks, laundry trays, etc		89	(X)	63.7	(X)	38.9
32722 00	Precast concrete products, n.s.k		(NA)	(X)	[3]99.4	(X)	56.2

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CONCRETE PRODUCTS, N.E.C.--Con.						
32723 --	Prestressed concrete products	Mil. sq. ft...	(NA)	(X)	423.6	(X)	414.1
32723 11	Single tees, double tees, and channels	Mil. lin. ft..	68	**44.6	86.2	63.5	94.3
32723 23	Piling, bearing piles, and sheet piles		36	6.0	35.0	8.1	31.7
32723 25	Bridge beams	Mil. lin. ft..	64	(S)	75.3	2.6	51.8
32723 27	Joists, girders, and beams other than bridge beams	Mil. sq. ft...	41	*2.2	36.1	6.9	29.2
32723 31	Solid and hollow cored slabs and panels	Mil. sq. ft...	68	*53.0	94.3	77.1	118.1
32723 75	Net weight of prestressed concrete products shipped	1,000 s. tons.	(X)	(S)	(X)	(NA)	(X)
32723 98	Other prestressed concrete products, such as arches, columns, etc	1,000 s. tons.	37	(S)	39.3	815.4	45.5
32723 00	Prestressed concrete products, n.s.k.			(X)	[3]57.4	(X)	43.5
32720 00	Concrete products, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	378.9	(X)	210.9
32720 02	Concrete products, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	177.2	(X)	137.6
	READY-MIXED CONCRETE						
3273- --	Total	Million cu. yd.	(NA)	**203.4	5,679.9	208.5	3,578.8
32730 --	Ready-mixed concrete:						
32730 11	Ready-mixed concrete	Million cu. yd.	(NA)	**203.4	5,679.9	208.5	3,578.8
	LIME						
3274- --	Total		(X)	(X)	473.5	(X)	231.4
32740 --	Lime, including cost of shipping containers:						
32740 11	Quicklime	1,000 s. tons.	38	1,022.3	329.6	9,481	143.3
32740 51	Hydrated lime		37	276.6	100.8	2,546	54.7
32740 71	Dead-burned dolomite	1,000 s. tons.	9	96.4	35.2	1,255	24.2
32740 00	Lime, n.s.k., typically for establishments with 10 employees or more (see note)		(X)	(X)	2.8	(X)	8.3
32740 02	Lime, n.s.k., typically for establishments with less than 10 employees (see note)		(X)	(X)	5.1	(X)	1.0
	GYPSUM PRODUCTS						
3275- --	Total		(NA)	(X)	932.1	(X)	583.1
32751 --	Calcined gypsum products for industrial uses and building purposes, excluding industrial plasters		(NA)	(X)	864.9		
32751 12	Plaster building boards and lath	1,000 s. tons.	19	13,309	770.7		
32751 13	Building plasters	1,000 s. tons.	11	(S)	85.9	14,528	538.4
32751 00	Calcined gypsum products for industrial uses and building purposes, excluding industrial plasters, n.s.k.		(NA)	(X)	8.3		
32752 --	Industrial plasters:						
32752 11	Industrial plasters	1,000 s. tons.	6	932	54.0	1,332	40.4
32750 00	Gypsum products, n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	6.5	(X)	2.7
32750 02	Gypsum products, n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	(X)	6.8	(X)	1.6
	CUT STONE AND STONE PRODUCTS						
3281- --	Total		(NA)	(X)	385.5	(X)	286.8
32811 --	Dressed dimension granite, including gneiss, syenite, diorite, and cut granite	1,000 cu. ft..	(NA)	(X)	164.4	(X)	123.3
32811 13	Building stone		29	(S)	33.5	(S)	34.3
32811 35	Monumental stone		111	*7,760.5	104.3	(S)	74.5
32811 98	Other granite products, such as paving blocks and curbing	1,000 cu. ft..	24	(S)	20.9	(S)	10.8
32811 00	Dressed dimension granite, n.s.k.		(NA)	(X)	[4]5.6	(X)	3.7
32812 --	Dressed dimension limestone, including dolomite, travertine, calcareous tufa, and cut limestone		(NA)	(X)	53.3	(X)	27.9
32812 13	Building stone	1,000 cu. ft..	32	4,654.6	20.2	(S)	21.0
32812 98	Other limestone products, such as flagging	1,000 cu. ft..	45	**1,034.3	31.5	(S)	4.1
32812 00	Dressed dimension limestone, n.s.k.		(NA)	(X)	[4]1.5	(X)	2.7

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CUT STONE AND STONE PRODUCTS--Con.						
32813 --	Dressed dimension marble and other stone	.....	(NA)	(X)	83.6	(X)	44.2
32813 37	Building stone, monumental stone, and other marble products	1,000 cu. ft..	55	(S)	43.9	(S)	25.4
32813 98	Other stone, such as slate (roofing, mill stock, and flagstone), sandstone, gabbro, basalt, and other dressed dimension stone products		55	(S)	36.0	(S)	12.3
32813 00	Dressed dimension marble and other stone, n.s.k.	1,000 cu. ft..	(NA)	(X)	[4]3.7	(S)	6.4
32810 00	Cut stone and stone products, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	51.2	(X)	61.0
32810 02	Cut stone and stone products, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	33.0	(X)	30.4

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00".

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]In 1977, a new procedure, small establishments with more than 5 employees reported on short forms, which requested only product class totals. These data are included in codes ending in "00." Thus, 1977 data for product codes (7 digits) may not be completely comparable with 1972 data.

[4]Includes dressed products produced at mines.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
32721, CONCRETE PIPE		
United States	843.8	565.3
New England Division:		
New Hampshire	4.1	BB
Massachusetts	8.8	CC
Connecticut	11.1	10.1
Middle Atlantic Division:		
New York	32.6	18.9
New Jersey	24.1	22.2
Pennsylvania	23.0	10.6
East North Central Division:		
Ohio	48.5	30.8
Indiana	15.6	8.1
Illinois	45.7	30.4
Michigan	36.3	36.9
Wisconsin	13.3	9.1
West North Central Division:		
Minnesota	34.9	18.3
Iowa	13.7	6.3
Missouri	10.3	5.2
Nebraska	5.7	5.9
Kansas	11.0	6.2
South Atlantic Division:		
Maryland	28.1	20.7
Virginia	25.2	13.9
North Carolina	16.0	9.0
South Carolina	15.7	11.4
Georgia	15.5	15.0
Florida	37.3	17.8
East South Central Division:		
Tennessee	12.6	12.5
Alabama	9.4	CC
Mississippi	20.5	12.0
West South Central Division:		
Louisiana	12.0	7.6
Oklahoma	4.6	4.2
Texas	95.4	60.8
Mountain Division:		
Idaho	5.7	2.3
Colorado	12.3	8.9
Utah	18.0	5.8
Pacific Division:		
Washington	15.7	12.8
Oregon	13.4	CC
California	89.9	77.5
Hawaii	7.3	BB
32722, PRECAST CONCRETE PRODUCTS		
United States	772.6	536.8
New England Division:		
Maine	5.8	3.2
Massachusetts	14.6	14.3
Connecticut	13.1	14.2
Middle Atlantic Division:		
New York	29.3	41.7
New Jersey	18.6	27.7
Pennsylvania	41.2	30.1
East North Central Division:		
Ohio	55.1	28.5
Indiana	16.5	14.8
Illinois	33.7	19.8
Michigan	21.6	21.1
Wisconsin	26.0	15.6
West North Central Division:		
Minnesota	25.3	17.2
Iowa	9.6	7.8
Missouri	13.9	7.6
South Dakota	3.3	2.0
Nebraska	8.9	5.3
Kansas	7.3	4.6
32722, PRECAST CONCRETE PRODUCTS--Con.		
South Atlantic Division:		
Maryland	12.6	8.9
Virginia	18.1	14.2
North Carolina	18.2	14.4
South Carolina	3.3	4.5
Georgia	18.9	20.8
Florida	50.6	31.4
East South Central Division:		
Kentucky	5.9	4.7
Tennessee	14.4	9.9
Alabama	16.8	4.6
Mississippi	7.8	3.1
West South Central Division:		
Arkansas	5.4	2.1
Louisiana	18.5	6.2
Oklahoma	10.5	4.0
Texas	37.4	34.3
Mountain Division:		
Idaho	2.6	(NA)
Wyoming	2.6	(NA)
Colorado	27.4	8.2
New Mexico	2.5	(NA)
Arizona	8.1	3.8
Utah	4.4	4.1
Nevada	3.3	(NA)
Pacific Division:		
Washington	20.2	11.9
Oregon	4.2	BB
California	99.7	55.2
Hawaii	2.8	AA
32723, PRESTRESSED CONCRETE PRODUCTS		
United States	423.6	414.1
Middle Atlantic Division:		
New Jersey	7.7	15.2
Pennsylvania	17.7	24.3
East North Central Division:		
Ohio	8.2	15.6
Indiana	11.8	14.3
Illinois	18.2	15.7
Michigan	6.4	7.8
Wisconsin	5.5	7.3
West North Central Division:		
Minnesota	16.0	12.6
Iowa	8.1	BB
North Dakota	2.8	(NA)
Kansas	6.2	4.0
South Atlantic Division:		
Virginia	15.2	13.0
North Carolina	9.3	6.6
South Carolina	7.5	7.3
Georgia	10.4	CC
Florida	33.8	41.8
East South Central Division:		
Kentucky	9.1	AA
Tennessee	14.8	7.8
Mississippi	9.2	7.5
West South Central Division:		
Oklahoma	8.2	CC
Texas	40.7	34.8
Mountain Division:		
Idaho	4.1	AA
Pacific Division:		
Washington	16.5	7.4
California	24.9	27.4
Hawaii	7.2	BB

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
32751, GYPSUM BUILDING MATERIALS		
United States	864.9	538.4
Middle Atlantic Division:		
New York	60.2	53.4
East North Central Division:		
Ohio	32.3	EE
Michigan	41.1	25.7
West North Central Division:		
Iowa	69.8	FF
South Atlantic Division:		
Georgia	45.2	FF
Florida	35.4	27.6
West South Central Division:		
Texas	98.7	65.1
Mountain Division:		
Nevada	30.7	EE
Pacific Division:		
California	131.8	GG
32811, CUT GRANITE AND GRANITE PRODUCTS		
United States	164.4	123.3
New England Division:		
Vermont	39.0	27.2
Massachusetts	5.5	6.4
Middle Atlantic Division:		
New York	2.3	4.5
East North Central Division:		
Ohio	7.6	1.1
West North Central Division:		
Minnesota	34.7	FF
South Atlantic Division:		
North Carolina	3.5	3.5
Georgia	31.8	21.5
32811, CUT GRANITE AND GRANITE PRODUCTS--Con.		
West South Central Division:		
Texas	5.6	3.5
Pacific Division:		
California	7.3	3.0
32812, CUT LIMESTONE AND LIMESTONE PRODUCTS		
United States	53.3	27.9
Middle Atlantic Division:		
New York	5.6	6.3
Pennsylvania	2.6	(NA)
East North Central Division:		
Indiana	11.5	11.2
Illinois	4.4	1.2
West North Central Division:		
Missouri	3.9	AA
Kansas	2.5	(NA)
32813, CUT MARBLE AND OTHER CUT STONE PRODUCTS		
United States	83.6	44.2
New England Division:		
Vermont	9.6	5.1
Middle Atlantic Division:		
New York	3.3	BB
Pennsylvania	5.7	BB
East North Central Division:		
Ohio	8.8	3.9
Illinois	3.4	1.9
West North Central Division:		
Missouri	2.3	BB
South Atlantic Division:		
North Carolina	2.7	2.1
Georgia	7.3	7.1
West South Central Division:		
Texas	5.4	1.4
Pacific Division:		
California	3.7	AA

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. **Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
32710	Concrete block and brick	1,005.1	845.7	830.8	820.6	892.4	795.7	502.1	472.4
3272-	Concrete products, n.e.c.	2,596.1	2,199.2	2,227.1	2,156.0	2,097.6	1,864.7	1,047.5	861.9
32721	Concrete pipe	843.8	781.8	809.2	713.0	599.4	565.3	400.5	369.3
32722	Precast concrete products	772.6	783.8	823.3	774.1	678.6	536.8	341.5	297.3
32723	Prestressed concrete products	423.6	489.7	537.6	553.3	510.4	414.1	217.7	140.9
32720	Concrete products, n.e.c., n.s.k.	556.1	(143.9)	57.0	(115.6)	309.2	348.5	187.8	54.4
32730	Ready-mixed concrete	5,679.9	4,715.6	4,298.4	(4,167.2)	3,783.7	3,578.8	2,330.5	1,970.7
32740	Lime	473.5	400.4	362.5	317.1	236.9	231.4	163.5	136.9
3275-	Gypsum products	932.1	681.9	543.5	643.1	654.2	583.1	362.4	405.1
32751	Gypsum building materials	864.9	616.7	486.7	582.7	610.3	538.4	339.1	
32752	Other gypsum products	54.0	62.0	53.5	60.4	37.7	40.4	19.4	405.1
32750	Gypsum products, n.s.k.	13.3	(3.2)	(3.3)	-	(6.2)	4.3	3.9	
3281-	Cut stone and stone products	385.5	430.5	386.4	320.1	306.1	286.8	211.4	190.9
32811	Cut granite and granite products	164.4	(255.9)	(223.4)	185.2	134.4	123.3	75.9	87.8
32812	Cut limestone and limestone products	53.3	(87.1)	(75.9)	45.1	30.0	27.9	27.3	29.1
32813	Cut marble and other cut stone products	83.6	56.1	59.9	59.3	59.3	44.2	53.8	63.6
32810	Cut stone and stone products, n.s.k.	84.2	(31.4)	(27.2)	30.5	82.4	91.4	54.4	10.4

- Represents zero. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3271, CONCRETE BLOCK AND BRICK					
	Materials, parts, containers, and supplies	...	(X)	404.3	(X)	301.9
324101	Portland cement	1,000 s. tons	(S)	97.2	3,536.3	90.0
144201	Sand and gravel		(S)	47.9	20,257.0	45.1
142011	Crushed or broken stone		(S)	29.9	10,743.9	32.8
	Steel:					
331091	Wire strand and bars or rods, high strength, stress relieved		(S)	.4	(S)	.6
331092	Welded wire concrete reinforcing mesh		**1.5	.5	5.6	1.2
331009	Concrete reinforcing bars	1,000 s. tons	(S)	.9	8.4	1.3
327300	Ready-mixed concrete	Million cu. yd.	(S)	1.9	(X)	54.0
970099	All other materials and components, parts, containers, and supplies	...	(X)	64.0	(X)	
971000	Materials, parts, containers, and supplies, n.s.k.[2]	...	(X)	161.6	(X)	76.8
	INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.					
	Materials, parts, containers, and supplies	...	(X)	1,019.8	(X)	675.9
324101	Portland cement	1,000 s. tons	*4,020.3	172.4	5,113.3	132.8
144201	Sand and gravel		*17,134.2	60.4	19,482.5	51.8
142011	Crushed or broken stone	1,000 s. tons	*3,803.3	17.3	6,417.3	20.6
327300	Ready-mixed concrete	1,000 cu. yd	(S)	28.0	(X)	([3])
	Steel:					
331091	Wire strand and bars or rods, high strength, stress relieved	1,000 s. tons	**174.0	78.0	240.8	59.6
331092	Welded wire concrete reinforcing mesh		**205.2	79.1	248.6	52.9
331009	Concrete reinforcing bars	1,000 s. tons	**132.9	35.3	171.5	30.2
970099	All other materials and components, parts, containers, and supplies	...	(X)	198.4	(X)	[3]154.9
971000	Materials, parts, containers, and supplies, n.s.k.[2]	...	(X)	350.9	(X)	172.9
	INDUSTRY 3273, READY-MIXED CONCRETE					
	Materials, containers, and supplies	...	(X)	3,296.5	(X)	2,036.0
324101	Portland cement	1,000 s. tons	28,870.1	1,210.4	37,456.9	866.3
144201	Sand and gravel[4]		167,621.1	540.4	177,505.3	400.0
	Crushed or broken stone:					
142200	Limestone, including dolomite, cement rock, marl, travertine, and calcareous tufa		*24,850.7	97.3	58,564.0	162.2
142300	Granite, including gneiss, syenite, and diorite		*4,189.4	16.9		
142900	Other stone, including slate, marble, trap rock, sandstone, quartz, and miscellaneous types of stone		(S)	13.8		
149905	Natural pumice, pozzolan, and other miscellaneous natural non-metallic minerals		(S)	2.8	(X)	([5])
329504	Lightweight aggregate, including vermiculite, perlite, expanded clays, shale, and slag	1,000 s. tons	**2,620.9	20.2	(X)	([5])
281001	Ready-mixed concrete chemical processing preparation and materials, including all add mixtures and silicon alumina	Million ...	(S)	39.2	(X)	([5])
970099	All other materials and components, parts, containers, and supplies	...	(X)	1,355.5	(X)	[5]131.6
971000	Materials, containers, and supplies, n.s.k.[2]	...			(X)	475.3
	INDUSTRY 3274, LIME					
	Materials, parts, containers, and supplies	...	(X)	95.1	(X)	57.7
264338	Paper shipping sacks and multiwall bags	1,000 s. tons	(S)	5.7	(X)	4.2
320591	Refractories, clay or nonclay		(S)	2.8	(X)	.9
329511	Nonmetallic minerals and earths, ground or otherwise treated, including granulated slag and gypsum		(S)	4.2	(X)	([6])
142011	Crushed and broken stone, including cement rock, limestone, etc	1,000 s. tons	*7,260	29.0	7,529	18.2
970099	All other materials and components, parts, containers, and supplies	...	(X)	46.9	(X)	[6]29.8
971000	Materials, parts, containers, and supplies, n.s.k.[3]	...	(X)	6.5	(X)	4.6
	INDUSTRY 3275, GYPSUM PRODUCTS					
	Materials, containers, and supplies	...	(X)	424.0	(X)	257.9
264338	Paper shipping sacks and multiwall bags	1,000 s. tons	(S)	8.9	21	7.0
263112	Paperboard liners		467	71.8	571	60.2
320591	Refractories, clay or nonclay		(D)	([7])	30	1.6
329511	Nonmetallic minerals and earths, ground or otherwise treated, including granulated slag and gypsum		(S)	87.0	(X)	([8])
142011	Crushed and broken stone, including cement rock, limestone, etc	1,000 s. tons	(S)	11.0	1,097.0	54.5
970099	All other materials and components, parts, containers, and supplies	...	(X)	[7]225.6	(X)	[8]131.1
971000	Materials, containers, and supplies, n.s.k.[4]	...	(X)	19.6	(X)	3.5

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977			1972		
			Quantity[1]	Delivered cost (million dollars)	Stone consumed from quarries operated at same location as dressing plant	Quantity	Delivered cost (million dollars)	Stone consumed from quarries operated at same location as dressing plant
	INDUSTRY 3281, CUT STONE AND STONE PRODUCTS							
	Materials, containers, and supplies	1,000 s. tons	(X)	131.1	(S)	(X)	96.3	(S)
141101	Rough blocks used to produce dressed stone		(S)	28.9	(S)	(S)	30.0	(S)
142101	Broken stone received for crushing, screening, or washing		(S)	.9	(S)	(S)	.1	(S)
329104	Abrasives and abrasive products		(X)	6.9	(X)	(X)	(NA)	(X)
342301	Stonecutting tools and accessories, including blades		(X)	2.9	(X)	(X)	(NA)	(X)
970099	All other materials and components, parts, containers, and supplies		(X)	32.9	(X)	(X)	33.3	(X)
971000	Materials, containers, and supplies, n.s.k.[2]	1,000 s. tons	(X)	58.6	(X)	(X)	32.9	(X)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form and establishments reporting on the short form that did not include a material inquiry.

[3]For 1972, material code 327300 was included with material code 970099.

[4]Does not include sand and gravel mined and consumed at same location.

[5]For 1972, material codes 149905, 329504, and 281001 were included with material code 970099.

[6]For 1972, material code 329511 was included with material code 970099.

[7]For 1977, material code 320591 was included with material code 970099 to avoid disclosing operations of individual companies.

[8]For 1972, material code 329511 was included with material code 970099.

Table 8. Employees Engaged in Transportation (Industry 3273): 1977

Item	Total		Establishments reporting transportation employees				Establishments not reporting transportation employees		Coverage ratio C/A	Ratio of transportation activity to total	
			Total		Engaged in transportation					Employees E/C	Payroll F/D
	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)			
	A	B	C	D	E	F	G	H	I	J	K
Ready-mixed concrete	87.9	1,175.8	43.4	605.5	24.9	320.1	44.5	570.3	.49	.57	.61

Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products

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DESCRIPTION OF INDUSTRIES

ABRASIVE, ASBESTOS, AND MISCELLANEOUS MINERAL PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3291	Abrasive Products
3292	Asbestos Products
3293	Gaskets, Packing, and Sealing Devices
3295	Minerals, Ground or Treated
3296	Mineral Wool
3297	Nonclay Refractories
3299	Nonmetallic Mineral Products, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3291, ABRASIVE PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of abrasive grinding wheels of natural or synthetic materials, and other abrasive products. Establishments primarily engaged in the cutting of grindstones, pulpstones, and whetstones at the quarry are classified in the mining industries.

The total value of shipments for establishments classified in the Abrasive Products industry amounted to $1,956 million in 1977, an increase of 120 percent from 1972. The value of shipments of products classified as primary to the industry was $1,722 million, an increase of 93 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,098 million in 1977, was 107 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 28.3 thousand employees, an increase of 16 percent from 1972. The leading States in employment were Massachusetts, New York, Ohio, and Illinois, accounting for approximately 60 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 70 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3292, ASBESTOS PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of asbestos textiles, asbestos building materials, except asbestos paper (industry 2261), insulating materials for covering boilers and pipes, and other commodities composed wholly or chiefly of asbestos. Establishments primarily engaged in the manufacture of gaskets and steam and other packing are classified in industry 3293.

The total value of shipments for establishments classified in the Asbestos Products industry amounted to $882 million in 1977, an increase of 16 percent from 1972. The value of shipments of products classified as primary to the industry was $960 million, an increase of 29 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $439 million in 1977, was 3 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 13.9 thousand employees, a decrease of 51 percent from 1972. The leading States in employment were Pennsylvania, California, New York, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3293, GASKETS, PACKING, AND SEALING DEVICES

This industry comprises establishments primarily engaged in the manufacture of gaskets, gasketing materials, compression packing, molded packings, oil seals, and mechanical seals. Included are gaskets packing and sealing devices, made of leather, rubber, metal, asbestos, and plastics. Establishments primarily engaged in the manufacture of insulation materials containing asbestos are classified in industry 3292.

The total value of shipments for establishments classified in the Gaskets, Packing, and Sealing Devices industry amounted to $1,267 million in 1977, an increase of 90 percent from 1972. The value of shipments of products classified as primary to the industry was $1,255 million, an increase of 75 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $748 million in 1977, was 75 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 33.0 thousand employees, an increase of 19 percent from 1972. The leading States in employment were Illinois, California, Indiana, and Ohio, accounting for approximately 45 percent of the industry's 1977 employment. This represents a shift from 1972 when Illinois, California, New Jersey, and Pennsylvania accounted for approximately 45 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3295, MINERALS, GROUND OR TREATED

This industry comprises establishments primarily engaged in crushing, grinding, pulverizing, and otherwise preparing certain earths, rocks, minerals, or slag for sale for industrial uses or for further manufacture. Establishments primarily engaged in the beneficiation of ores and the cleaning and grading of coal performed at the mine or by primary preparation plants are classified in the mining industries.

The total value of shipments for establishments classified in the Minerals, Ground or Treated industry amounted to $957 million in 1977, an increase of 131 percent from 1972. The value of shipments of products classified as primary to the industry was $911 million, an increase of 133 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $479 million in 1977, was 84 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 11.5 thousand employees, an increase of 21 percent from 1972. The leading States in employment were California, Pennsylvania, Michigan, and Ohio, accounting for approximately 35 percent of the industry's 1977 employment. This represents a shift from 1972 when Pennsylvania, California, Texas, and Ohio accounted for approximately 40 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3296, MINERAL WOOL

This industry comprises establishments primarily engaged in the manufacture of mineral wool and mineral wool insulation products made of such siliceous materials as rock, slag, and glass, or combinations thereof. Establishments primarily engaged in the manufacture of asbestos insulation products and textile glass fibers are classified in industries 3292 and 3229, respectively.

The total value of shipments for establishments classified in the Mineral Wool industry amounted to $1,791 million in 1977, an increase of 137 percent from 1972. The value of shipments of products classified as primary to the industry was $1,684 million, an increase of 128 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,054 million in 1977, was 139 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 22.6 thousand employees, an increase of 26 percent from 1972. The leading States in employment were Ohio, Kansas, New Jersey, and Indiana, accounting for approximately 50 percent of the industry's 1977 employment. Data for Kansas have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3297, NONCLAY REFRACTORIES

This industry comprises establishments primarily engaged in the manufacture of refractories and crucibles made of materials other than clay. Establishments primarily engaged in the manufacture of clay refractories are classified in industry 3255.

The total value of shipments for establishments classified in the Nonclay Refractories industry amounted to $680 million in 1977, an increase of 99 percent from 1972. The value of shipments of products classified as primary to the industry was $734 million, an increase of 97 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $352 million in 1977, was 85 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 9.1 thousand employees, an increase of 12 percent from 1972. The leading States in employment were Pennsylvania, Ohio, Maryland, and New York, accounting for approximately 60 percent of the industry's 1977 employment. Data for New York and Maryland have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of nonclay refractories only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of nonclay refractories are reported quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-32C, Refractories. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3299, NONMETALLIC MINERAL PRODUCTS, N.E.C.

This industry comprises establishments primarily engaged in the factory production of statuary and art goods made of plaster of paris and papier mache, and in manufacturing sand lime products and other nonmetallic mineral products, not elsewhere classified.

The total value of shipments for establishments classified in the Nonmetallic Mineral Products, N.E.C. industry amounted to $387 million in 1977, an increase of 130 percent from 1972. The value of shipments of products classified as primary to the industry was $391 million, an increase of 128 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $224 million in 1977, was 114 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.7 thousand employees, an increase of 22 percent from 1972. The leading States in employment were New York, New Jersey, California, and Ohio, accounting for approximately 50 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 45 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 11 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3291, ABRASIVE PRODUCTS																
1977 Census--	354	410	178	28.3	392.3	20.1	38.5	241.2	1 097.7	914.4	1 955.8	48.7	(NA)	317.7	90	97
1976 ASM----	(NA)	(NA)	(NA)	24.7	311.5	17.9	35.0	194.2	788.4	671.8	1 432.9	44.6	497.1	221.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	24.4	278.7	17.3	33.3	167.5	679.2	544.6	1 222.2	44.0	491.2	190.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	27.3	287.7	20.2	39.2	185.3	683.4	561.3	1 235.2	44.9	441.2	190.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	26.8	266.0	19.0	37.3	166.6	630.1	450.7	1 069.7	24.8	444.6	181.9	(NA)	(NA)
1972 Census--	335	392	167	24.5	229.4	17.2	33.1	138.1	529.6	361.6	888.1	17.2	446.9	147.9	93	88
1971 ASM----	(NA)	(NA)	(NA)	23.8	205.1	16.1	30.8	117.4	469.4	321.5	790.2	18.3	401.9	147.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	26.0	206.8	17.6	33.2	121.4	457.4	321.2	775.8	30.2	377.9	149.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	28.7	230.0	20.1	39.3	138.9	498.4	377.3	867.3	25.2	426.1	143.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	31.3	233.7	22.0	42.2	144.7	567.0	419.7	990.7	24.4	400.8	160.4	(NA)	(NA)
1967 Census--	320	361	165	27.2	197.5	18.9	36.3	119.1	420.7	306.5	725.3	30.4	388.7	128.2	91	85
1966 ASM----	(NA)	(NA)	(NA)	34.9	246.4	23.3	47.7	152.5	619.9	413.0	1 015.6	39.3	(NA)	161.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	31.7	218.4	20.9	43.3	134.2	535.3	372.3	899.6	21.9	(NA)	138.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	29.3	201.1	19.2	38.8	113.6	473.5	309.6	775.1	16.3	309.4	123.4	(NA)	(NA)
1963 Census--	340	378	149	28.2	187.0	18.6	36.7	107.6	416.4	287.5	704.2	15.5	298.8	115.0	70	95
INDUSTRY 3292, ASBESTOS PRODUCTS																
1977 Census--	87	123	76	13.9	179.9	11.0	22.6	137.4	439.3	448.7	882.1	26.0	(NA)	168.0	92	81
1976 ASM----	(NA)	(NA)	(NA)	16.6	193.1	13.0	26.7	145.0	512.1	484.1	988.5	20.1	409.6	182.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.3	189.5	13.5	26.9	139.7	461.0	437.6	900.1	23.1	432.8	171.1	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	21.0	219.3	16.9	35.3	168.4	489.9	492.7	963.1	32.4	456.2	183.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	21.3	204.6	17.1	35.6	155.2	442.0	382.4	823.6	29.3	449.2	150.5	(NA)	(NA)
1972 Census--	87	142	97	21.0	191.0	16.6	34.5	142.8	426.1	343.5	763.4	20.4	425.3	136.3	91	88
1971 ASM----	(NA)	(NA)	(NA)	18.9	159.6	14.7	30.7	119.9	350.5	290.8	632.6	16.2	380.0	122.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	18.9	150.4	14.7	30.8	112.6	315.7	268.5	585.3	16.1	368.5	112.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	22.2	168.9	17.7	37.7	128.9	363.8	297.7	658.8	20.1	370.3	117.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	21.5	152.8	17.0	35.7	114.9	336.9	279.8	613.5	15.8	341.6	121.4	(NA)	(NA)
1967 Census--	81	138	99	21.3	144.0	16.8	35.0	107.5	308.1	263.9	575.0	18.9	333.0	111.0	93	90
1966 ASM----	(NA)	(NA)	(NA)	22.7	149.6	17.8	37.6	114.0	324.2	281.9	591.1	23.4	(NA)	113.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	21.0	132.1	16.8	34.7	100.3	300.6	268.3	567.7	27.9	(NA)	95.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	20.4	128.1	16.4	34.9	98.4	300.1	251.7	545.8	20.9	275.0	89.8	(NA)	(NA)
1963 Census--	73	124	84	19.5	118.0	15.7	32.9	89.8	269.1	240.7	509.2	12.4	257.2	82.8	95	91
INDUSTRY 3293, GASKETS, PACKING, AND SEALING DEVICES[3]																
1977 Census--	388	433	217	33.0	371.3	25.0	47.5	237.3	748.3	524.9	1 267.1	46.5	(NA)	208.6	93	89
1976 ASM----	(NA)	(NA)	(NA)	27.6	300.9	20.7	41.3	191.6	621.6	417.5	1 019.3	35.9	339.3	181.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	25.6	259.7	19.0	37.3	162.3	487.8	351.3	842.2	32.2	316.1	151.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	27.9	262.4	21.2	41.8	170.9	498.6	348.6	834.7	32.4	275.4	148.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	28.3	240.8	21.7	42.9	158.7	453.8	280.4	723.0	20.7	242.3	117.3	(NA)	(NA)
1972 Census--	346	374	184	27.7	220.4	21.1	42.7	146.9	428.5	252.6	665.4	24.9	265.9	101.9	89	81
INDUSTRY 3295, MINERALS, GROUND OR TREATED																
1977 Census--	309	466	151	11.5	156.3	8.9	18.1	111.8	479.4	480.6	957.3	50.2	(NA)	116.3	96	90
1976 ASM----	(NA)	(NA)	(NA)	12.4	144.0	10.0	19.9	101.7	496.3	381.4	878.5	77.9	601.5	105.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	11.6	126.5	9.3	19.1	91.0	379.1	285.0	660.0	65.8	522.2	86.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	11.8	117.1	9.5	20.1	85.4	316.1	291.3	597.8	50.2	431.7	68.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	10.7	101.7	8.4	17.7	77.9	283.2	198.2	461.6	35.1	368.3	45.9	(NA)	(NA)
1972 Census--	349	488	152	9.5	87.9	7.6	16.2	64.6	237.2	177.3	414.4	30.0	340.1	40.3	95	89
1971 ASM----	(NA)	(NA)	(NA)	11.3	92.7	9.1	19.8	70.2	237.9	173.9	415.1	35.2	379.0	44.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	11.7	93.5	9.7	20.9	72.0	251.9	170.0	417.1	34.9	381.3	44.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	10.9	79.1	8.6	18.1	57.9	222.5	153.9	372.2	20.1	338.4	34.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	9.6	68.8	7.6	16.0	50.4	182.7	154.0	334.9	32.2	280.0	32.5	(NA)	(NA)
1967 Census--	382	504	130	8.9	59.3	7.0	14.4	41.7	149.4	132.4	280.9	23.5	267.6	27.3	95	89
1966 ASM----	(NA)	(NA)	(NA)	8.9	58.3	6.8	14.5	40.7	164.7	127.9	292.1	21.6	(NA)	26.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	8.6	52.6	6.6	13.9	37.1	142.4	120.1	263.2	19.4	(NA)	24.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	7.3	43.9	5.5	11.3	30.5	107.0	104.9	210.8	10.2	152.6	24.4	(NA)	(NA)
1963 Census--	313	415	97	7.3	41.6	5.7	11.7	29.6	102.1	101.9	204.4	11.9	148.3	23.5	94	86

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3296, MINERAL WOOL																
1977 Census--	95	153	90	22.6	313.8	18.6	38.3	244.5	1 053.7	738.6	1 790.5	85.9	(NA)	121.5	93	96
1976 ASM----	(NA)	(NA)	(NA)	20.3	263.2	16.6	34.5	206.2	767.5	628.4	1 389.7	35.0	750.3	115.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	18.1	210.2	14.5	29.5	160.4	617.0	528.0	1 145.5	81.0	718.4	100.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	19.5	218.7	16.0	33.7	171.4	596.8	468.1	1 059.8	102.6	614.3	86.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	18.7	194.0	15.5	32.5	152.5	521.5	351.1	868.9	58.5	530.3	67.6	(NA)	(NA)
1972 Census--	66	108	75	18.0	172.3	14.7	30.8	135.7	441.5	315.6	755.4	50.1	491.2	54.9	93	93
1971 ASM----	(NA)	(NA)	(NA)	16.2	146.7	13.1	28.4	115.3	367.5	269.7	640.3	45.0	420.4	48.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	15.8	134.2	12.8	26.7	104.7	320.8	244.2	559.5	32.4	383.7	48.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	15.3	123.8	12.4	26.0	97.5	315.4	227.1	539.7	25.0	331.7	42.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	14.5	111.6	11.7	24.6	87.7	279.5	211.2	486.4	28.0	304.4	38.3	(NA)	(NA)
1967 Census--	77	116	74	15.1	106.9	12.2	25.5	83.9	247.3	204.4	454.4	27.2	294.5	35.3	92	96
1966 ASM----	(NA)	(NA)	(NA)	16.1	108.9	12.9	27.3	84.3	252.2	214.5	461.0	24.1	(NA)	40.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	15.4	99.3	12.2	26.1	77.8	227.6	202.1	430.2	16.3	(NA)	32.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	14.9	91.6	11.9	24.7	70.7	216.7	180.1	395.6	18.5	258.1	31.5	(NA)	(NA)
1963 Census--	89	123	67	14.7	92.3	11.6	24.8	69.1	206.8	186.8	391.9	38.0	246.0	32.4	90	96
INDUSTRY 3297, NONCLAY REFRACTORIES																
1977 Census--	68	109	66	9.1	134.3	6.8	13.5	92.5	352.1	336.4	680.2	37.1	(NA)	159.5	92	83
1976 ASM----	(NA)	(NA)	(NA)	9.0	122.8	6.7	13.3	85.3	329.4	316.7	643.0	25.6	358.2	152.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.9	111.8	6.5	13.1	77.4	287.3	275.8	564.9	29.2	348.1	137.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.9	122.7	8.5	17.5	90.1	335.9	286.9	609.2	24.8	344.0	132.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.2	96.3	7.1	14.8	69.3	249.1	203.7	445.0	16.5	292.6	92.0	(NA)	(NA)
1972 Census--	60	90	60	8.1	78.3	6.0	12.8	54.5	191.1	151.1	342.1	9.3	277.1	81.6	94	84
1971 ASM----	(NA)	(NA)	(NA)	8.9	78.7	6.3	12.6	51.0	184.4	147.4	331.4	21.0	271.7	92.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.9	84.2	7.4	15.1	58.0	197.8	162.6	353.8	20.1	275.7	90.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	9.4	77.4	7.2	14.8	53.5	185.8	160.0	347.5	21.1	267.0	73.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	9.5	72.8	7.1	14.4	49.4	164.7	150.1	315.8	16.4	252.4	79.1	(NA)	(NA)
1967 Census--	59	92	64	9.9	72.1	7.4	14.8	49.5	158.7	149.7	307.1	17.3	251.7	87.0	90	88
1966 ASM----	(NA)	(NA)	(NA)	10.3	71.6	8.0	16.3	51.2	172.3	164.4	333.1	15.9	(NA)	88.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	9.5	64.7	7.5	15.4	47.2	155.0	146.4	293.6	17.0	(NA)	76.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	9.1	59.7	7.3	15.0	43.6	143.7	140.4	283.5	10.2	203.1	65.9	(NA)	(NA)
1963 Census--	51	93	68	8.6	53.4	6.8	13.5	38.7	129.1	123.1	250.2	9.3	193.2	71.3	94	88
INDUSTRY 3299, NONMETALLIC MINERAL PRODUCTS, N.E.C.																
1977 Census--	684	696	70	7.7	87.2	6.2	11.4	59.1	224.1	166.6	387.3	28.7	(NA)	46.9	93	89
1976 ASM----	(NA)	(NA)	(NA)	7.8	79.8	6.3	11.7	56.4	196.6	128.0	325.3	31.0	(S)	36.4	(NA)	(NA)
1975 ASM[5]---	(NA)	(NA)	(NA)	6.9	64.4	5.5	10.8	43.2	135.6	112.2	253.9	18.4	(S)	29.9	(NA)	(NA)
1974 ASM[6]---	(NA)	(NA)	(NA)	7.8	61.4	6.3	12.2	44.3	144.3	92.9	230.9	11.0	(S)	31.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	7.1	53.6	6.0	11.1	37.5	133.5	73.1	200.2	9.0	(S)	18.0	(NA)	(NA)
1972 Census--	480	491	81	6.3	46.0	5.2	9.9	31.9	104.7	58.7	166.5	5.0	(S)	16.1	94	90
1971 ASM----	(NA)	(NA)	(NA)	4.8	36.4	3.8	7.6	25.3	72.8	50.8	123.1	5.3	75.5	27.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	4.2	29.9	3.3	6.6	19.8	60.5	38.4	98.7	2.5	55.5	24.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	4.7	29.2	3.7	6.7	19.7	57.7	46.6	104.5	3.3	45.7	11.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	4.9	29.6	4.0	7.4	20.8	56.6	43.6	100.0	2.9	48.3	11.0	(NA)	(NA)
1967 Census--	325	330	53	5.3	30.6	4.3	8.3	21.1	56.8	43.5	99.9	2.2	49.8	11.6	83	89
1966 ASM----	(NA)	(NA)	(NA)	6.4	35.9	5.2	10.7	24.7	68.7	49.1	115.9	3.4	(NA)	14.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	6.2	32.3	5.1	10.9	23.1	66.1	48.9	114.3	4.4	(NA)	12.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	5.3	25.9	4.2	8.2	17.9	53.1	46.1	98.5	1.5	42.7	10.7	(NA)	(NA)
1963 Census--	313	320	56	5.5	27.1	4.4	8.3	18.2	53.3	43.4	96.2	2.2	41.0	11.3	86	96

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3291, ABRASIVE PRODUCTS											
1977 Census--	13 871	(NA)	71	1 913	6.25	46	66	(NA)	38 808	35	28.47
1976 ASM----	12 611	20 125	72	1 955	5.54	46	68	34	31 919	39	22.52
1975 ASM----	11 422	20 131	70	1 924	5.03	44	67	40	27 836	41	20.39
1974 ASM----	10 538	16 161	73	1 940	4.72	45	68	35	25 032	42	17.43
1973 ASM----	9 925	16 589	70	1 963	4.46	42	67	41	23 511	42	16.89
1972 Census--	9 363	18 240	70	1 924	4.17	40	66	50	21 616	43	16.00
1971 ASM----	8 617	16 886	67	1 913	3.81	40	66	50	19 722	43	15.24
1970 ASM----	7 953	14 534	67	1 886	3.65	41	68	48	17 592	45	13.77
1969 ASM----	8 013	14 846	70	1 955	3.53	43	70	49	17 365	46	12.68
1968 ASM----	7 466	12 805	70	1 918	3.42	42	65	40	18 115	41	13.43
1967 Census--	7 261	14 290	69	1 920	3.28	42	69	53	15 466	46	11.58
1966 ASM----	7 060	(NA)	66	2 047	3.19	40	64	(NA)	17 762	39	12.99
1965 ASM----	6 889	(NA)	65	2 071	3.09	41	65	(NA)	16 886	40	12.36
1964 ASM----	6 863	10 559	65	2 020	2.92	39	65	39	16 160	42	12.20
1963 Census--	6 631	10 595	65	1 973	2.93	40	67	42	14 765	44	11.34
INDUSTRY 3292, ASBESTOS PRODUCTS											
1977 Census--	12 921	(NA)	79	2 049	6.07	50	71	(NA)	31 546	40	19.40
1976 ASM----	11 632	24 674	78	2 053	5.43	48	68	41	30 849	37	19.17
1975 ASM----	10 953	25 017	78	1 992	5.19	48	69	48	26 647	41	17.13
1974 ASM----	10 442	21 723	80	2 088	4.77	51	73	47	23 328	44	13.87
1973 ASM----	9 605	21 089	80	2 081	4.35	46	71	54	20 751	46	12.41
1972 Census--	9 095	20 252	79	2 078	4.13	44	70	55	20 290	44	12.35
1971 ASM----	8 444	20 105	77	2 088	3.90	45	71	60	18 544	45	11.41
1970 ASM----	7 957	19 497	77	2 095	3.65	45	71	62	16 703	47	10.25
1969 ASM----	7 608	16 680	79	2 129	3.41	45	70	56	16 387	46	9.64
1968 ASM----	7 106	15 888	79	2 100	3.21	45	70	55	15 669	45	9.43
1967 Census--	6 760	15 633	78	2 083	3.07	45	70	57	14 464	46	8.80
1966 ASM----	6 590	(NA)	78	2 112	3.03	47	72	(NA)	14 281	46	8.62
1965 ASM----	6 290	(NA)	80	2 065	2.89	47	70	(NA)	14 314	43	8.66
1964 ASM----	6 279	13 480	80	2 128	2.81	46	69	50	14 710	42	8.59
1963 Census--	6 051	13 189	80	2 095	2.72	47	70	50	13 800	43	8.17
INDUSTRY 3293, GASKETS, PACKING, AND SEALING DEVICES											
1977 Census--	11 242	(NA)	75	1 899	4.99	41	70	(NA)	22 655	49	15.74
1976 ASM----	10 902	12 293	75	1 995	4.63	40	70	33	22 521	48	15.05
1975 ASM----	10 144	12 347	74	1 963	4.35	41	72	37	19 054	53	13.07
1974 ASM----	9 405	9 870	75	1 971	4.08	41	73	32	17 870	52	11.92
1973 ASM----	8 508	8 561	76	1 976	3.69	38	72	33	16 035	53	10.57
1972 Census--	7 956	9 599	76	2 023	3.44	37	71	39	15 469	51	10.03
INDUSTRY 3295, MINERALS, GROUND OR TREATED											
1977 Census--	13 628	(NA)	77	2 046	6.16	50	66	(NA)	41 799	32	26.44
1976 ASM----	11 612	48 508	80	1 990	5.11	43	59	68	40 024	29	24.93
1975 ASM----	10 905	45 017	80	2 053	4.76	43	62	79	32 681	33	19.84
1974 ASM----	9 923	36 584	80	2 115	4.24	48	68	72	26 788	37	15.72
1973 ASM----	9 504	34 420	78	2 107	4.40	42	64	79	26 467	35	16.00
1972 Census--	9 252	35 800	80	2 131	3.98	43	64	82	24 968	37	14.64
1971 ASM----	8 203	33 539	80	2 175	3.54	41	64	91	21 053	38	12.01
1970 ASM----	7 991	32 589	82	2 154	3.44	40	63	91	21 529	37	12.05
1969 ASM----	7 256	31 045	78	2 104	3.19	41	62	90	20 412	35	12.29
1968 ASM----	7 166	29 166	79	2 105	3.15	45	66	83	19 031	37	11.41
1967 Census--	6 662	30 067	78	2 057	2.89	47	68	95	16 786	39	10.37
1966 ASM----	6 550	(NA)	76	2 132	2.80	43	63	(NA)	18 505	35	11.35
1965 ASM----	6 116	(NA)	76	2 106	2.66	45	65	(NA)	16 558	36	10.24
1964 ASM----	6 013	20 904	75	2 054	2.69	49	70	72	14 657	41	9.46
1963 Census--	5 698	20 315	78	2 052	2.52	49	70	72	13 986	40	8.72

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3296, MINERAL WOOL											
1977 Census--	13 879	(NA)	82	2 064	6.38	41	58	(NA)	46 608	29	27.50
1976 ASM----	12 965	36 960	81	2 078	5.97	45	64	53	37 807	34	22.24
1975 ASM----	11 613	39 690	80	2 034	5.43	46	64	62	34 088	34	20.91
1974 ASM----	11 215	31 502	82	2 106	5.08	44	64	57	30 605	36	17.70
1973 ASM----	10 374	28 358	82	2 096	4.69	40	62	61	27 887	37	16.04
1972 Census--	9 572	27 288	81	2 095	4.40	41	64	65	24 527	39	14.33
1971 ASM----	9 055	25 950	80	2 167	4.05	42	65	65	22 685	39	12.94
1970 ASM----	8 493	24 284	81	2 085	3.92	43	67	68	20 303	41	12.01
1969 ASM----	8 091	21 679	81	2 096	3.75	42	65	61	20 614	39	12.13
1968 ASM----	7 696	20 993	80	2 102	3.56	43	66	62	19 275	39	11.36
1967 Census--	7 079	19 503	80	2 090	3.29	44	68	64	16 377	43	9.69
1966 ASM----	6 763	(NA)	80	2 116	3.08	46	70	(NA)	15 664	43	9.23
1965 ASM----	6 448	(NA)	79	2 139	2.98	46	70	(NA)	14 779	43	8.72
1964 ASM----	6 147	17 322	79	2 075	2.86	45	68	65	14 543	42	8.77
1963 Census--	6 278	16 734	78	2 137	2.78	47	71	62	14 068	44	8.33
INDUSTRY 3297, NONCLAY REFRACTORIES											
1977 Census--	14 688	(NA)	74	1 984	6.86	49	69	(NA)	38 504	38	26.13
1976 ASM----	13 644	39 800	74	1 985	6.41	49	68	55	36 600	37	24.76
1975 ASM----	12 561	39 112	73	2 015	5.90	49	69	62	32 281	39	21.93
1974 ASM----	11 256	31 559	77	2 058	5.14	47	67	56	30 816	36	19.19
1973 ASM----	10 467	31 804	77	2 084	4.68	45	67	65	27 076	38	16.83
1972 Census--	9 666	34 209	74	2 133	4.25	44	67	81	23 592	40	14.92
1971 ASM----	8 842	30 528	70	2 000	4.04	44	68	81	20 719	42	14.63
1970 ASM----	8 505	27 848	74	2 040	3.84	45	69	77	19 979	42	13.09
1969 ASM----	8 234	28 404	76	2 055	3.61	46	68	76	19 765	41	12.55
1968 ASM----	7 663	26 568	74	2 028	3.43	47	70	79	17 336	44	11.43
1967 Census--	7 282	25 424	74	2 000	3.34	48	72	81	16 030	45	10.72
1966 ASM----	6 951	(NA)	77	2 037	3.14	49	70	(NA)	16 728	41	10.57
1965 ASM----	6 810	(NA)	78	2 053	3.06	49	71	(NA)	16 315	41	10.06
1964 ASM----	6 560	22 318	80	2 054	2.90	49	70	71	15 791	41	9.58
1963 Census--	6 209	22 465	79	1 985	2.86	49	70	77	15 011	41	9.56
INDUSTRY 3299, NONMETALLIC MINERAL PRODUCTS, N.E.C.											
1977 Census--	11 322	(NA)	80	1 849	5.17	43	65	(NA)	29 086	38	19.61
1976 ASM----	10 230	(S)	80	1 857	4.82	39	63	(S)	25 205	40	16.80
1975 ASM----	9 333	(S)	79	1 963	4.00	44	69	(S)	19 652	47	12.55
1974 ASM----	7 871	(S)	80	1 936	3.63	40	66	(S)	18 500	42	11.82
1973 ASM----	7 549	(S)	84	1 850	3.37	36	63	(S)	18 802	40	12.02
1972 Census--	7 301	(S)	82	1 903	3.22	35	62	(S)	16 619	43	10.57
1971 ASM----	7 583	15 729	79	2 000	3.32	41	70	61	15 166	50	9.57
1970 ASM----	7 119	13 214	78	2 000	3.00	38	69	56	14 404	49	9.16
1969 ASM----	6 212	9 723	78	1 810	2.94	44	72	43	12 276	50	8.61
1968 ASM----	6 040	9 857	81	1 850	2.81	43	73	48	11 551	52	7.64
1967 Census--	5 773	9 396	81	1 930	2.55	43	74	49	10 716	53	6.84
1966 ASM----	5 609	(NA)	81	2 057	2.30	42	73	(NA)	10 734	52	6.42
1965 ASM----	5 209	(NA)	82	2 137	2.11	42	71	(NA)	10 661	48	6.06
1964 ASM----	4 886	8 056	79	1 952	2.18	46	73	43	10 018	48	6.47
1963 Census--	4 927	7 454	80	1 886	2.19	45	73	42	9 690	50	6.42

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3291, ABRASIVE PRODUCTS														
United States	-	**410**	**178**	**28.3**	**392.3**	**20.1**	**38.5**	**241.2**	**1 097.7**	**914.4**	**1 955.8**	**48.7**	**24.5**	**529.6**
New England Division:														
Massachusetts	-	26	16	6.2	92.3	3.8	7.1	46.4	170.0	139.0	308.2	10.8	5.8	127.1
Connecticut	-	9	5	0.4	5.4	0.2	0.5	3.3	13.5	14.6	27.8	0.7	CC	(D)
Middle Atlantic Division:														
New York	-	44	20	4.6	65.7	3.5	6.8	45.8	138.7	152.0	292.7	7.0	6.7	132.3
New Jersey	E1	26	10	0.6	8.1	0.5	0.9	4.9	16.6	14.7	30.9	0.3	0.5	7.7
Pennsylvania	-	34	17	1.4	19.2	1.1	2.0	11.7	45.3	43.8	89.1	4.9	1.6	29.3
East North Central Division:														
Ohio	-	43	25	3.3	44.2	2.4	4.6	27.2	142.8	77.3	217.6	11.7	2.6	71.1
Indiana	-	8	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Illinois	-	39	22	2.3	29.1	1.5	2.9	15.5	83.2	44.2	126.2	2.2	2.1	50.7
Michigan	E1	50	17	1.6	22.0	1.1	2.2	13.2	46.5	38.3	83.9	2.4	EE	(D)
Wisconsin	-	11	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West North Central Division:														
Minnesota	-	7	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Iowa	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Alabama	-	3	3	0.2	2.1	0.1	0.2	1.4	4.4	7.3	11.4	(D)	AA	(D)
Mississippi	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	-	13	7	0.9	7.4	0.7	1.4	5.1	36.5	25.2	58.2	(D)	AA	(D)
Pacific Division:														
Washington	-	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California	E2	40	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
INDUSTRY 3292, ASBESTOS PRODUCTS														
United States	-	**123**	**76**	**13.9**	**179.9**	**11.0**	**22.6**	**137.4**	**439.3**	**448.7**	**882.1**	**26.0**	**21.0**	**426.1**
New England Division:														
New Hampshire	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Massachusetts	-	4	3	0.3	3.3	0.2	0.5	2.0	11.3	10.8	20.5	(D)	CC	(D)
Middle Atlantic Division:														
New York	-	8	3	1.4	18.6	1.1	2.2	14.2	31.6	34.5	67.5	2.2	1.8	33.6
New Jersey	-	10	9	1.1	17.2	0.9	2.0	13.6	30.3	42.2	72.6	1.8	2.1	40.4
Pennsylvania	-	11	8	1.9	23.4	1.4	2.7	16.8	53.4	42.8	96.5	2.6	2.3	40.3
East North Central Division:														
Ohio	-	7	2	0.3	4.0	0.2	0.5	2.5	6.7	10.0	18.4	(Z)	1.0	20.0
Indiana	-	4	3	0.8	8.6	0.5	1.0	6.2	17.8	13.7	30.6	0.8	CC	(D)
Illinois	-	7	7	1.1	16.8	0.9	2.0	13.4	47.9	51.0	95.9	2.7	2.4	59.9
West North Central Division:														
Missouri	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Maryland	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
North Carolina	-	6	4	0.9	8.2	0.8	1.5	6.9	28.2	18.3	46.0	1.2	CC	(D)
East South Central Division:														
Kentucky	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Tennessee	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Alabama	-	4	3	0.3	3.3	0.2	0.4	2.3	2.7	6.6	9.1	(D)	AA	(D)
West South Central Division:														
Arkansas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Louisiana	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Texas	-	6	4	0.9	11.9	0.7	1.6	9.0	41.2	42.7	84.1	(D)	1.2	35.8
Pacific Division:														
California	-	19	10	1.5	23.4	1.1	2.4	18.2	68.3	74.8	142.2	2.7	EE	(D)
INDUSTRY 3293, GASKETS, PACKING, AND SEALING DEVICES														
United States	-	**433**	**217**	**33.0**	**371.3**	**25.0**	**47.5**	**237.3**	**748.3**	**524.9**	**1 267.1**	**46.5**	**27.7**	**428.5**
New England Division:														
Maine	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Hampshire	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Massachusetts	-	16	8	0.8	10.4	0.6	1.2	6.1	39.8	23.7	61.9	1.2	0.4	7.1
Rhode Island	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	13	8	0.6	6.4	0.5	1.0	3.9	9.8	6.0	15.8	0.5	CC	(D)
Middle Atlantic Division:														
New York	-	30	12	1.8	19.6	1.3	2.4	12.4	44.6	28.6	73.6	1.8	0.8	11.8
New Jersey	-	20	9	1.1	14.0	0.8	1.5	9.8	35.2	18.1	51.8	1.4	1.9	38.1
Pennsylvania	-	23	10	0.8	10.9	0.6	1.1	6.4	20.6	14.7	35.9	1.0	1.9	29.6

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3293, GASKETS, PACKING, AND SEALING DEVICES—Con.														
East North Central Division:														
Ohio	-	37	17	2.0	22.3	1.6	3.0	15.3	48.5	31.3	79.3	2.4	1.7	28.2
Indiana	-	16	10	2.6	28.7	2.2	4.4	21.7	49.2	26.6	75.5	2.5	1.6	25.0
Illinois	-	44	25	7.1	91.8	5.0	8.7	56.0	160.0	144.5	305.0	8.6	6.3	118.2
Michigan	-	29	18	1.8	20.3	1.3	2.6	12.4	45.7	38.4	84.8	2.1	1.6	26.9
Wisconsin	-	9	3	0.7	6.3	0.6	1.2	4.2	12.4	18.0	30.6	1.8	0.5	6.2
West North Central Division:														
Minnesota	-	8	2	0.2	2.4	0.2	0.4	1.7	5.1	2.4	7.4	(D)	(NA)	(NA)
Missouri	E1	9	5	0.2	2.4	0.1	0.3	1.2	3.8	5.9	9.6	0.1	(NA)	(NA)
South Dakota	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	5	3	0.6	5.4	0.5	0.8	3.7	13.0	9.8	22.2	1.3	AA	(D)
West Virginia	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
North Carolina	-	6	4	0.8	8.0	0.6	1.2	4.7	19.4	11.8	29.9	(D)	BB	(D)
South Carolina	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Tennessee	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Alabama	-	5	4	0.3	3.2	0.3	0.5	2.5	10.2	7.5	17.6	(D)	BB	(D)
West South Central Division:														
Texas	-	35	19	1.9	19.4	1.6	3.1	13.1	39.5	32.1	71.2	2.3	EE	(D)
Mountain Division:														
Utah	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Nevada	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	E1	60	25	3.0	32.7	2.2	4.4	20.8	61.7	30.4	91.7	3.2	2.4	28.1
INDUSTRY 3295, MINERALS, GROUND OR TREATED														
United States	-	**466**	**151**	**11.5**	**156.3**	**8.9**	**18.1**	**111.8**	**479.4**	**480.6**	**957.3**	**50.2**	**9.5**	**237.2**
Middle Atlantic Division:														
New York	-	10	3	0.5	6.7	0.3	0.6	4.0	17.9	12.8	31.0	2.3	BB	(D)
New Jersey	E1	21	9	0.6	8.7	0.4	0.9	5.9	18.1	36.1	54.0	4.7	0.6	13.9
Pennsylvania	-	49	21	1.2	15.1	0.9	1.8	11.3	40.2	28.0	67.7	3.9	1.1	25.9
East North Central Division:														
Ohio	-	35	12	0.8	12.1	0.6	1.2	8.5	30.8	23.4	54.0	2.9	0.7	19.2
Indiana	-	9	2	0.3	5.9	0.2	0.5	4.8	10.8	11.3	21.9	1.2	0.3	8.9
Illinois	-	19	8	0.4	6.0	0.3	0.6	3.9	16.3	21.4	37.4	2.0	0.3	6.6
Michigan	-	13	5	0.7	10.9	0.5	1.1	8.6	42.0	69.7	109.7	3.6	0.4	13.3
Wisconsin	-	9	2	0.2	3.6	0.2	0.4	2.6	12.5	9.7	22.1	0.6	(NA)	(NA)
West North Central Division:														
Missouri	-	17	5	0.3	3.5	0.2	0.5	2.5	10.9	10.4	21.2	0.4	0.2	5.1
South Atlantic Division:														
Maryland	-	4	3	0.2	3.2	0.2	0.4	2.4	11.4	5.0	16.7	(D)	0.3	9.5
Virginia	-	6	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	5.0
West Virginia	-	10	3	0.2	3.5	0.2	0.4	2.7	9.0	3.6	12.5	(D)	0.2	4.2
North Carolina	-	16	3	0.2	2.4	0.2	0.3	1.8	4.1	8.4	12.5	1.3	(NA)	(NA)
South Carolina	-	5	2	0.2	2.3	0.1	0.3	1.3	3.2	4.1	7.3	(D)	(NA)	(NA)
Georgia	-	10	6	0.7	7.3	0.5	1.2	5.3	24.2	21.4	44.7	4.1	0.5	11.2
Florida	-	10	4	0.2	3.0	0.2	0.4	2.1	7.5	11.2	18.8	0.3	(NA)	(NA)
East South Central Division:														
Tennessee	-	10	3	0.2	1.8	0.1	0.3	1.2	7.8	3.1	10.7	(D)	(NA)	(NA)
Alabama	-	10	5	0.3	3.7	0.2	0.4	2.7	7.4	12.2	19.6	1.5	0.2	4.7
West South Central Division:														
Arkansas	-	10	4	0.4	4.8	0.3	0.6	3.4	24.1	14.2	38.5	2.1	(NA)	(NA)
Louisiana	-	9	6	0.5	6.7	0.4	0.8	5.2	43.1	30.8	73.6	1.2	0.2	5.0
Texas	-	37	13	0.6	6.5	0.5	0.8	4.2	16.3	26.0	45.4	2.4	0.7	13.3
Pacific Division:														
Oregon	E2	15	3	0.3	3.6	0.2	0.4	2.5	9.5	5.8	15.1	0.7	0.2	4.6
California	-	34	10	1.2	18.2	1.0	2.1	12.8	55.6	68.6	123.3	5.4	1.0	28.8
INDUSTRY 3296, MINERAL WOOL														
United States	-	**153**	**90**	**22.6**	**313.8**	**18.5**	**38.3**	**244.5**	**1 053.7**	**738.6**	**1 790.5**	**85.9**	**18.0**	**441.5**
Middle Atlantic Division:														
New York	-	7	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey	-	11	8	2.6	36.2	2.1	5.2	28.1	122.9	92.7	216.2	9.9	1.9	54.9
Pennsylvania	-	14	9	1.7	23.0	1.3	2.5	17.0	69.2	43.0	112.9	(D)	EE	(D)
East North Central Division:														
Ohio	-	13	9	3.9	57.8	3.3	6.5	47.5	152.1	121.6	274.7	(D)	4.1	86.3
Indiana	-	10	10	1.9	23.2	1.6	3.2	17.9	69.5	51.4	121.6	9.0	2.1	30.5
Illinois	-	6	4	0.6	9.8	0.5	1.0	7.3	24.6	16.3	39.9	(D)	(NA)	(NA)
Michigan	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Wisconsin	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3296, MINERAL WOOL—Con.														
West North Central Division:														
Minnesota	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	6	4	0.5	4.9	0.4	0.7	3.6	17.0	10.1	26.9	(D)	BB	(D)
Kansas	-	5	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
South Atlantic Division:														
West Virginia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	-	7	5	1.1	14.4	0.9	1.9	10.3	86.2	44.2	129.2	13.6	CC	(D)
Florida	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East South Central Division:														
Alabama	-	3	3	0.3	3.8	0.2	0.4	2.6	9.1	9.1	18.2	(D)	0.3	7.0
Mississippi	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Texas	-	11	7	1.3	16.6	1.1	2.1	13.0	83.5	57.5	141.7	(D)	0.8	32.8
Mountain Division:														
Colorado	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	12	6	1.5	23.0	1.2	2.6	17.6	96.9	60.2	155.4	4.3	EE	(D)
INDUSTRY 3297, NONCLAY REFRACTORIES														
United States	-	**109**	**66**	**9.1**	**134.3**	**6.8**	**13.5**	**92.5**	**352.1**	**336.4**	**680.2**	**37.1**	**8.1**	**191.1**
Middle Atlantic Division:														
New York	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
New Jersey	-	4	3	0.5	7.5	0.3	0.6	4.5	21.0	22.5	43.7	(D)	0.7	13.0
Pennsylvania	-	30	20	2.4	35.5	1.9	3.7	26.0	93.6	82.5	174.2	3.8	EE	(D)
East North Central Division:														
Ohio	-	20	11	1.4	20.2	0.9	1.7	11.9	61.0	70.5	130.5	6.1	1.1	38.3
Indiana	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Illinois	-	6	4	0.3	3.8	0.2	0.4	2.7	9.2	11.9	21.0	1.2	AA	(D)
West North Central Division:														
Missouri	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Atlantic Division:														
Maryland	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West Virginia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Georgia	-	5	2	0.2	2.8	0.2	0.3	1.7	4.5	5.1	10.2	(D)	AA	(D)
East South Central Division:														
Kentucky	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Mississippi	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
INDUSTRY 3299, NONMETALLIC MINERAL PRODUCTS, N.E.C.														
United States	**E1**	**696**	**70**	**7.7**	**87.2**	**6.2**	**11.4**	**59.1**	**224.1**	**166.6**	**387.3**	**28.7**	**6.3**	**104.7**
New England Division:														
New Hampshire	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Middle Atlantic Division:														
New York	-	60	8	1.0	12.1	0.8	1.6	8.0	30.4	39.2	70.7	7.2	0.8	10.8
New Jersey	-	27	7	1.1	14.6	0.8	1.3	7.9	27.3	22.6	47.1	1.1	0.5	12.5
Pennsylvania	E1	31	5	0.3	3.6	0.2	0.4	2.4	6.8	4.5	11.3	(D)	0.2	2.3
East North Central Division:														
Ohio	-	36	7	0.9	9.3	0.7	1.3	7.1	25.3	12.0	37.3	(D)	0.5	8.7
Indiana	-	9	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	E1	34	7	0.4	4.9	0.4	0.7	3.5	8.7	7.9	16.2	(D)	0.5	7.7
West North Central Division:														
Missouri	E2	21	1	0.2	1.5	0.1	0.2	1.1	4.0	2.5	6.5	0.9	(NA)	(NA)
South Atlantic Division:														
Virginia	-	9	3	0.3	2.4	0.2	0.4	1.8	7.8	7.7	15.8	0.2	AA	(D)
Florida	E2	34	3	0.2	2.2	0.2	0.3	1.3	4.8	4.7	9.4	0.7	0.2	2.9
East South Central Division:														
Mississippi	-	10	1	0.2	2.9	0.2	0.3	2.3	10.9	7.9	18.9	0.4	BB	(D)
West South Central Division:														
Louisiana	E1	14	1	0.2	1.7	0.1	0.3	1.4	7.6	3.2	10.7	0.7	(NA)	(NA)
Texas	E5	64	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Mountain Division:														
Colorado	E1	15	2	0.2	1.9	0.1	0.3	1.4	6.0	2.4	7.8	(D)	(NA)	(NA)
Pacific Division:														
Washington	E1	14	2	0.3	2.9	0.3	0.5	2.1	9.3	4.7	14.1	1.7	(NA)	(NA)
California	E1	109	9	0.9	11.8	0.8	1.4	8.3	27.2	19.9	47.1	5.1	0.9	14.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Abrasive products (SIC 3291)	Asbestos products (SIC 3292)	Gaskets, packing and sealing devices (SIC 3293)	Minerals, ground or treated (SIC 3295)	Mineral wool (SIC 3296)	Nonclay refractories (SIC 3297)	Nonmetallic mineral products, n.e.c. (SIC 3299)
Primary product specialization ratio[1]	percent	90	92	93	96	93	92	93
Coverage ratio[2]	do	97	81	89	90	96	83	89
All establishments	number	410	123	433	466	153	109	696
With 1 to 19 employees	do	232	47	216	315	63	43	526
With 20 to 99 employees	do	128	27	142	130	37	38	54
With 100 employees or more	do	50	49	75	21	53	28	16
All employees, average for year	1,000	28.3	13.9	33.0	11.5	22.6	9.1	7.7
Payroll for year, all employees	mil. dol.	392.3	179.9	371.3	156.3	313.8	134.3	87.2
Production workers:								
Average for year	1,000	20.1	11.0	25.0	8.9	18.6	6.8	6.2
March	do	19.7	10.7	24.3	8.7	17.9	6.6	6.1
May	do	20.0	10.9	25.1	9.0	18.7	7.0	6.2
August	do	20.5	11.3	25.0	8.9	18.2	6.9	6.1
November	do	20.2	11.2	25.6	8.8	19.4	6.7	6.1
Hours	millions	38.5	22.6	47.5	18.1	38.3	13.5	11.4
January to March	do	9.4	5.5	11.7	4.4	8.9	3.2	2.8
April to June	do	9.7	5.8	12.0	4.6	9.8	3.5	3.0
July to September	do	9.7	5.7	11.7	4.6	9.5	3.5	2.8
October to December	do	9.8	5.6	12.1	4.5	10.2	3.3	2.9
Wages	mil. dol.	241.2	137.4	237.3	111.8	244.5	92.5	59.1
Cost of materials, etc.	do	914.4	448.7	524.9	480.6	738.6	336.4	166.6
Materials, parts, containers, etc., consumed	do	799.1	391.4	450.2	373.5	546.3	284.0	132.5
Resales	do	62.9	26.1	45.8	19.3	37.0	10.6	9.7
Fuels consumed	do	20.3	15.3	7.9	53.7	95.7	28.8	13.2
Purchased electric energy	do	25.6	15.1	13.2	23.9	57.0	11.1	6.4
Contract work	do	6.5	0.8	7.7	10.2	2.6	1.8	4.8
Value of shipments, including resales	do	1 955.8	882.1	1 267.1	957.3	1 790.5	680.2	387.3
Value of resales	do	94.6	31.6	63.8	34.6	44.7	14.3	11.6
Value added by manufacture	do	1 097.7	439.3	748.3	479.4	1 053.7	352.1	224.1
Manufacturers' inventories:								
Beginning of year	do	247.8	161.3	195.5	116.4	116.5	141.8	40.5
Finished products	do	109.5	87.8	81.5	31.2	49.1	50.4	20.1
Work in process	do	64.4	20.0	48.1	13.3	5.6	17.7	8.2
Materials, supplies, fuel, etc.	do	73.8	53.4	65.9	72.0	61.7	73.7	12.1
End of year	do	317.7	168.0	208.6	116.3	121.5	159.5	46.9
Finished products	do	149.5	94.3	81.4	35.8	48.7	55.3	21.9
Work in process	do	80.7	19.4	54.3	11.4	7.8	21.1	9.9
Materials, supplies, fuel, etc.	do	87.5	54.2	72.9	69.1	65.0	83.1	15.2
Capital expenditures for plant and equipment	do	53.0	27.4	50.4	54.6	86.6	38.3	29.4
New capital expenditures	do	48.7	26.0	46.5	50.2	85.9	37.1	28.7
New buildings and other structures	do	12.0	5.4	8.0	9.7	12.2	6.9	11.2
New machinery and equipment	do	36.7	20.6	38.5	40.5	73.7	30.2	17.4
Used capital expenditures	do	4.3	1.4	3.9	4.5	0.7	1.1	0.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Abrasive products (SIC 3291)		Asbestos products (SIC 3292)		Gaskets, packing and sealing devices (SIC 3293)		Minerals, ground or treated (SIC 3295)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	(2.6)	26	(1.1)	23	2.5	5	(1.1)	45
Response coverage ratio[2] (percent)	65	(X)	65	(X)	69	(X)	62	(X)
Machinery	(9.8)	25	6.6	13	9.0	11	(16.5)	25
Response coverage ratio[2] (percent)	62	(X)	63	(X)	68	(X)	54	(X)
Cost of purchased communication services	4.5	14	1.4	8	5.3	7	(1.7)	25
Response coverage ratio[2] (percent)	72	(X)	66	(X)	62	(X)	54	(X)
Rental payments	20.4	11	2.6	9	8.3	6	5.2	13
Buildings and other structures	(11.0)	21	(0.8)	31	4.3	9	(1.3)	33
Machinery and equipment	9.4	4	1.8	3	4.1	8	(3.9)	15
Supplemental labor costs	84.5	2	40.3	2	78.2	2	30.6	3
Legal costs	30.8	2	18.4	1	34.1	2	14.1	3
Voluntary costs	53.6	3	21.9	3	44.1	3	16.5	4
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	186.8	4	87.2	3	112.9	4	93.9	4
New capital expenditures	(14.0)	17	4.7	4	7.5	6	(7.3)	24
Used capital expenditures	2.3	7	(0.2)	36	(2.2)	28	-	(X)
Retirements	5.4	5	2.7	2	2.9	4	3.2	5
End of year	197.7	4	89.3	3	119.7	4	98.0	5
Machinery and equipment:								
Beginning of year	408.5	3	274.4	2	260.1	3	432.6	4
New capital expenditures	41.1	13	19.8	2	36.5	5	39.6	8
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(D)	(A)	(2.2)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(D)	(A)	(Z)	(A)
All other[3]	(36.2)	55	(18.4)	(A)	(29.0)	69	(29.6)	68
New machinery and equipment, n.s.k.[4]	(3.5)	(A)	(1.0)	(A)	(6.2)	(A)	(7.7)	(A)
Used capital expenditures	(3.2)	39	(1.5)	16	(2.6)	20	(4.8)	23
Retirements	16.2	6	10.5	2	11.4	13	17.6	3
End of year	436.7	3	285.2	2	287.8	3	459.6	4
Total gross value of depreciable assets:								
Beginning of year	595.3	3	361.6	3	373.0	3	526.4	3
New capital expenditures	55.1	13	24.5	2	44.0	4	46.9	9
Used capital expenditures	(5.5)	23	(1.7)	16	(4.8)	18	(4.8)	22
Retirements	21.5	5	13.2	2	14.3	11	20.9	3
End of year	634.5	3	374.5	2	407.5	3	557.3	3
Depreciation charges during 1977	37.0	4	20.4	2	27.8	3	33.6	4
Buildings and other structures	8.4	4	3.0	3	5.1	4	4.2	5
Machinery and equipment	28.6	4	17.4	2	22.7	3	29.3	4

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Mineral wool (SIC 3296)		Nonclay refractories (SIC 3297)		Nonmetallic mineral products, n.e.c. (SIC 3299)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	1.1	1	1.7	9	(D)	40
Response coverage ratio[2] (percent)	45	(X)	54	(X)	36	(X)
Machinery	9.8	3	12.4	14	(2.6)	38
Response coverage ratio[2] (percent)	68	(X)	40	(X)	26	(X)
Cost of purchased communication services	2.6	7	1.3	11	(1.1)	41
Response coverage ratio[2] (percent)	58	(X)	63	(X)	56	(X)
Rental payments	7.4	9	(1.5)	15	(2.7)	23
Buildings and other structures	(2.7)	15	(0.2)	83	(2.0)	26
Machinery and equipment	4.7	7	1.3	11	(0.7)	36
Supplemental labor costs	66.2	1	35.7	2	15.8	2
Legal costs	28.3	1	13.6	5	6.8	2
Voluntary costs	37.9	1	22.1	4	9.0	2
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	202.1	2	88.3	5	55.5	11
New capital expenditures	13.5	11	8.7	14	11.7	14
Used capital expenditures	-	(X)	-	(X)	(0.5)	53
Retirements	1.2	11	(0.4)	35	(1.1)	39
End of year	214.4	2	96.6	4	66.7	10
Machinery and equipment:						
Beginning of year	547.3	4	241.3	4	140.7	14
New capital expenditures	73.9	3	33.5	9	(20.2)	23
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(2.6)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	-	(X)
All other[3]	(70.4)	28	(26.5)	75	(13.6)	(A)
New machinery and equipment, n.s.k.[4]	(2.4)	(A)	(6.4)	(A)	(4.0)	(A)
Used capital expenditures	0.6	12	1.0	0.5	(0.1)	62
Retirements	17.4	6	3.3	10	(4.8)	30
End of year	604.4	3	272.5	3	156.2	13
Total gross value of depreciable assets:						
Beginning of year	749.4	3	329.6	4	196.3	10
New capital expenditures	87.4	4	42.2	9	(31.9)	19
Used capital expenditures	0.6	11	1.1	5	(0.6)	46
Retirements	18.6	6	3.7	12	(5.8)	30
End of year	818.9	2	369.2	3	223.0	4
Depreciation charges during 1977	48.5	3	17.0	2	(12.6)	16
Buildings and other structures	8.2	2	3.1	5	(3.2)	19
Machinery and equipment	40.3	4	13.9	2	(9.4)	17

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3291, ABRASIVE PRODUCTS												
Total	-	**410**	**28.3**	**392.3**	**20.1**	**38.5**	**241.2**	**1 097.7**	**914.4**	**1 955.8**	**48.7**	**317.7**
Establishments with an average of—												
1 to 4 employees	E7	119	0.2	2.9	0.2	0.3	1.8	6.6	6.6	14.3	0.5	2.2
5 to 9 employees	E7	50	0.4	4.5	0.3	0.5	2.8	10.4	10.0	20.2	0.6	3.2
10 to 19 employees	E5	63	0.9	11.4	0.7	1.3	7.1	26.3	23.6	50.2	1.5	7.3
20 to 49 employees	-	81	2.6	33.0	2.0	3.9	19.7	84.6	84.1	167.6	7.1	21.3
50 to 99 employees	-	47	3.4	41.9	2.4	4.7	24.3	97.5	97.8	193.0	5.9	26.7
100 to 249 employees	-	28	4.3	52.3	3.2	6.1	33.1	111.5	108.8	216.9	5.4	36.3
250 to 499 employees	-	13	4.5	54.4	3.5	6.6	36.7	216.9	209.2	419.8	6.7	49.0
500 to 999 employees	-	6	(12.0)	(192.1)	(7.9)	(15.1)	(115.7)	(543.9)	(374.3)	(873.7)	(18.0)	(171.6)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	181	1.1	13.6	0.8	1.5	8.5	31.3	27.7	59.0	1.8	9.1
INDUSTRY 3292, ASBESTOS PRODUCTS												
Total	-	**123**	**13.9**	**179.9**	**11.0**	**22.6**	**137.4**	**439.3**	**448.7**	**882.1**	**26.0**	**168.0**
Establishments with an average of—												
1 to 4 employees	E5	18	(Z)	0.5	(Z)	0.1	0.4	(S)	1.4	2.7	0.1	0.5
5 to 9 employees	E5	14	0.1	1.1	0.1	0.2	0.9	2.7	3.9	6.5	0.1	1.5
10 to 19 employees	E5	15	0.2	2.5	0.1	0.3	1.6	5.3	6.4	11.6	0.3	1.9
20 to 49 employees	-	17	0.6	7.0	0.4	0.9	4.3	17.0	18.8	34.4	1.6	7.1
50 to 99 employees	-	10	0.8	9.5	0.6	1.2	6.4	28.8	29.5	56.7	2.7	12.8
100 to 249 employees	-	32	4.9	61.0	3.9	8.2	47.1	149.4	158.4	304.9	7.1	60.0
250 to 499 employees	-	14	4.8	63.5	3.8	8.0	50.5	156.2	184.6	338.0	10.5	63.4
500 to 999 employees	-	3	2.6	34.9	2.1	3.8	26.3	80.4	45.8	127.3	3.6	20.7
Covered by administrative records[2]	E0	30	0.3	3.0	0.2	0.4	2.3	6.7	7.4	14.1	0.3	2.7
INDUSTRY 3293, GASKETS, PACKING, AND SEALING DEVICES												
Total	-	**433**	**33.0**	**371.3**	**25.0**	**47.5**	**237.3**	**748.3**	**524.9**	**1 267.1**	**46.5**	**208.6**
Establishments with an average of—												
1 to 4 employees	E8	84	0.2	1.8	0.2	0.2	1.1	2.3	3.2	7.6	0.3	1.4
5 to 9 employees	E8	68	0.4	5.0	0.3	0.7	3.2	11.4	8.2	19.6	0.8	3.4
10 to 19 employees	E2	64	0.9	11.1	0.6	1.2	6.3	23.3	21.2	44.4	1.5	6.5
20 to 49 employees	-	95	3.1	35.1	2.2	4.3	19.9	70.7	63.8	133.8	3.2	19.2
50 to 99 employees	-	47	3.3	33.4	2.5	4.8	20.5	68.0	62.0	128.7	8.3	17.5
100 to 249 employees	-	42	6.9	72.7	5.3	10.6	47.6	180.2	116.4	291.7	12.2	47.9
250 to 499 employees	-	22	7.6	87.9	6.0	11.8	59.5	169.8	103.9	270.5	7.9	40.0
500 to 999 employees	-	7	5.4	56.4	4.4	8.2	40.5	100.8	50.0	150.8	7.4	22.0
1,000 to 2,499 employees	-	4	5.3	67.8	3.5	5.7	38.6	121.7	96.3	220.0	5.0	50.6
Covered by administrative records[2]	E0	153	0.8	9.1	0.7	1.3	5.8	20.2	13.9	34.1	1.2	6.3
INDUSTRY 3295, MINERALS, GROUND OR TREATED												
Total	-	**466**	**11.5**	**156.3**	**8.9**	**18.1**	**111.8**	**479.4**	**480.6**	**957.2**	**50.2**	**116.3**
Establishments with an average of—												
1 to 4 employees	E4	125	0.2	2.7	0.2	0.3	1.8	7.8	9.1	20.4	1.9	2.1
5 to 9 employees	E1	82	0.6	7.5	0.5	0.9	5.1	25.0	21.8	46.7	1.9	4.9
10 to 19 employees	-	108	1.6	20.0	1.2	2.4	13.8	62.9	59.9	122.5	7.2	11.9
20 to 49 employees	-	92	2.8	36.7	2.2	4.3	25.3	118.6	112.2	230.2	12.7	25.3
50 to 99 employees	-	38	2.7	36.2	2.0	4.2	25.5	89.3	87.3	174.7	13.1	27.0
100 to 249 employees	-	18	2.7	41.5	2.2	4.7	31.7	135.1	145.1	279.2	9.2	32.2
250 to 499 employees	-	3	0.9	11.6	0.6	1.3	8.5	40.8	45.4	83.5	4.1	12.7
Covered by administrative records[2]	E0	89	0.2	2.4	0.2	0.3	1.6	6.8	6.0	12.8	1.0	1.5
INDUSTRY 3296, MINERAL WOOL												
Total	-	**153**	**22.6**	**313.8**	**18.6**	**38.3**	**244.5**	**1 053.7**	**738.6**	**1 790.5**	**85.9**	**121.5**
Establishments with an average of—												
1 to 4 employees	E6	33	0.1	0.8	0.1	0.1	0.6	2.2	1.9	4.0	0.2	0.3
5 to 9 employees	E3	18	0.1	1.6	0.1	0.2	1.1	6.4	5.6	11.9	0.2	0.9
10 to 19 employees	E3	12	0.2	2.4	0.1	0.3	1.5	8.8	11.6	20.5	0.3	1.4
20 to 49 employees	-	19	0.6	6.6	0.5	0.9	4.0	20.3	30.2	50.6	1.4	4.9
50 to 99 employees	-	18	1.3	16.6	1.0	2.2	11.8	46.6	43.5	90.1	5.5	7.7
100 to 249 employees	-	22	3.5	46.7	2.7	5.5	32.3	142.3	102.2	244.5	11.8	21.1
250 to 499 employees	-	21	7.3	99.7	6.0	13.1	79.0	341.8	235.5	577.0	36.9	36.7
500 to 999 employees	-	7	(9.6)	(139.5)	(8.1)	(16.1)	(114.0)	(485.2)	(308.1)	(791.9)	(29.7)	(48.5)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	38	0.2	2.8	0.2	0.4	2.2	7.4	6.2	13.6	0.4	1.1
INDUSTRY 3297, NONCLAY REFRACTORIES												
Total	-	**109**	**9.1**	**134.3**	**6.8**	**13.5**	**92.5**	**352.1**	**336.4**	**680.2**	**37.1**	**159.5**
Establishments with an average of—												
1 to 4 employees	E8	18	(Z)	0.5	(Z)	0.1	0.3	1.2	1.3	2.6	0.1	0.7
5 to 9 employees	E2	13	0.1	1.2	0.1	0.1	0.9	3.5	4.0	7.4	(6.0)	1.2
10 to 19 employees	E1	12	0.2	2.3	0.1	0.3	1.6	9.2	7.6	16.8	(D)	2.5
20 to 49 employees	E1	18	0.6	8.1	0.4	0.9	5.0	17.1	17.4	34.3	(D)	5.5
50 to 99 employees	-	20	1.4	20.0	1.0	2.1	12.9	48.4	52.0	100.6	5.2	19.3
100 to 249 employees	-	15	2.5	35.7	1.9	3.6	25.6	98.1	104.7	202.6	4.4	44.3
250 to 499 employees	-	13	4.4	66.4	3.2	6.4	46.3	174.6	149.4	316.0	21.4	86.0
Covered by administrative records[2]	E0	23	0.1	1.7	0.1	0.2	1.2	4.0	3.7	7.6	0.2	1.7

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3299, NONMETALLIC MINERAL PRODUCTS, N.E.C.												
Total	**E1**	**696**	**7.7**	**87.2**	**6.2**	**11.4**	**59.1**	**224.1**	**166.6**	**387.3**	**28.7**	**46.9**
Establishments with an average of—												
1 to 4 employees	E8	473	0.7	6.8	0.7	1.1	5.0	18.4	10.8	29.1	4.1	3.3
5 to 9 employees	E4	84	0.5	5.5	0.5	0.8	4.0	13.0	8.6	21.5	2.3	2.3
10 to 19 employees	E3	69	0.9	9.0	0.8	1.4	6.5	24.2	14.9	38.9	3.5	4.1
20 to 49 employees	E1	40	1.2	13.9	0.9	1.7	8.5	33.8	21.7	55.0	3.5	7.2
50 to 99 employees	-	14	1.0	12.5	0.8	1.6	8.7	26.0	21.7	47.9	3.0	7.1
100 to 249 employees	-	11	1.6	19.4	1.2	2.2	12.2	61.4	39.5	100.4	3.9	9.8
250 to 499 employees	-	5	1.7	20.0	1.4	2.5	14.3	47.4	49.4	94.5	8.3	13.2
Covered by administrative records[2]	E0	432	0.8	7.8	0.8	1.3	5.7	20.0	12.3	32.4	4.3	3.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3291	**Abrasive products:**										
	Entire industry	410	28.3	392.3	20.1	38.5	241.2	1 097.7	914.4	1 955.8	48.7
	Establishments with 75 percent specialization or more	396	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32911	Nonmetallic sized grains, powders, and abrasives:										
	Establishments with this product class primary	28	2.9	47.4	2.1	4.2	29.2	157.9	152.9	309.6	9.9
	Establishments with 75 percent specialization or more in class	26	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32912	Nonmetallic bonded abrasive products:										
	Establishments with this product class primary	79	11.4	158.4	7.7	14.4	88.3	328.7	208.5	532.6	16.8
	Establishments with 75 percent specialization or more in class	74	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32913	Nonmetallic coated abrasive products:										
	Establishments with this product class primary	48	9.4	129.8	6.9	13.6	87.3	450.8	424.2	823.9	8.0
	Establishments with 75 percent specialization or more in class	40	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32914	Metal abrasives, including scouring pads:										
	Establishments with this product class primary	29	2.4	29.4	1.8	3.4	19.1	99.5	75.4	174.6	10.6
	Establishments with 75 percent specialization or more in class	27	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3292	**Asbestos products:**										
	Entire industry	123	13.9	179.9	11.0	22.6	137.4	439.3	448.7	882.1	26.0
	Establishments with 75 percent specialization or more	114	12.3	157.6	9.8	20.0	119.7	382.1	387.1	760.7	22.1
32922	Asbestos friction materials:										
	Establishments with this product class primary	24	5.5	65.8	4.2	8.2	48.9	165.2	105.7	269.5	11.0
	Establishments with 75 percent specialization or more in class	22	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32928	Asphalt and vinyl asbestos floor tile:										
	Establishments with this product class primary	15	2.8	37.9	2.3	4.9	29.3	95.8	118.2	212.2	5.2
	Establishments with 75 percent specialization or more in class	15	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32929	Asbestos textiles, insulation, and asbestos-cement products:										
	Establishments with this product class primary	38	5.2	71.1	4.2	8.8	55.3	168.3	212.4	376.2	9.2
	Establishments with 75 percent specialization or more in class	32	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3293	**Gaskets, packing, and sealing devices:**										
	Entire industry	433	33.0	371.3	25.0	47.5	237.3	748.3	524.9	1 267.1	46.5
	Establishments with 75 percent specialization or more	400	28.6	320.6	21.9	41.5	205.5	647.4	462.4	1 100.9	39.7
32932	Gaskets and gasketing materials:										
	Establishments with this product class primary	148	11.5	131.2	8.8	17.2	83.4	259.1	231.5	486.8	15.5
	Establishments with 75 percent specialization or more in class	120	10.0	115.5	7.7	15.1	73.3	227.2	197.4	421.1	13.2
32933	Packing and sealing devices:										
	Establishments with this product class primary	96	20.1	223.2	15.1	28.2	144.3	456.4	265.2	716.9	28.9
	Establishments with 75 percent specialization or more in class	78	15.9	176.8	12.1	22.4	114.6	360.8	208.8	564.1	22.1
3295	**Minerals, ground or treated:**										
	Entire industry	466	11.5	156.3	8.9	18.1	111.8	479.4	480.6	957.3	50.2
	Establishments with 75 percent specialization or more	437	10.4	140.4	8.0	16.4	99.1	442.3	422.6	861.3	45.7
3296	**Mineral wool:**										
	Entire industry	153	22.6	313.8	18.6	38.3	244.5	1 053.7	738.6	1 790.5	85.9
	Establishments with 75 percent specialization or more	143	19.6	274.8	16.1	33.2	214.8	972.7	649.5	1 621.2	74.5
32963	Mineral wool structural insulation made from produced fiber:										
	Establishments with this product class primary	35	10.3	147.1	8.5	17.2	115.7	604.0	358.6	961.2	48.0
	Establishments with 75 percent specialization or more in class	27	6.6	89.6	5.5	11.1	70.5	378.4	236.7	616.4	32.1
32964	Mineral wool industrial insulation made from produced fiber:										
	Establishments with this product class primary	19	7.1	102.1	5.9	12.7	81.8	281.5	201.8	482.2	26.4
	Establishments with 75 percent specialization or more in class	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32965	Mineral wool structural insulation made from purchased fiber:										
	Establishments with this product class primary	19	3.1	39.5	2.5	5.2	30.1	98.6	102.3	202.4	7.6
	Establishments with 75 percent specialization or more in class	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32966	Mineral wool industrial insulation made from purchased fiber:										
	Establishments with this product class primary	23	1.8	21.1	1.4	2.7	13.7	57.8	65.9	123.0	3.4
	Establishments with 75 percent specialization or more in class	16	1.0	12.8	0.8	1.6	8.8	40.7	42.0	82.5	(D)
3297	**Nonclay refractories:**										
	Entire industry	109	9.1	134.3	6.8	13.5	92.5	352.1	336.4	680.2	37.1
	Establishments with 75 percent specialization or more	93	7.4	108.1	5.7	11.3	77.4	302.8	263.2	559.9	30.2
3299	**Nonmetallic mineral products, n.e.c.:**										
	Entire industry	696	7.7	87.2	6.2	11.4	59.1	224.1	166.6	387.3	28.7
	Establishments with 75 percent specialization or more	679	6.3	71.3	5.0	9.1	47.4	180.3	144.7	324.8	24.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3291	Abrasive products	1977	1,955.8	1,667.9	187.4	100.5	90	1,721.8	1,667.9	53.9	97
		1972	888.1	782.2	60.5	45.4	93	892.3	782.2	110.1	88
		1967	725.3	625.4	59.9	40.0	91	734.2	625.4	108.8	85
3292	Asbestos products	1977	882.1	781.4	66.7	34.0	92	960.1	781.4	178.7	81
		1972	763.4	653.9	61.6	47.9	91	742.6	653.9	88.7	88
		1967	575.0	506.6	36.8	31.6	93	564.6	506.6	58.0	90
3293	Gaskets, packing, and sealing devices	1977	1,267.1	1,116.3	78.9	71.9	93	1,254.8	1,116.3	138.5	89
		1972	665.4	576.3	67.8	21.3	89	714.7	576.3	138.4	81
		1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3295	Minerals, ground or treated	1977	957.3	818.6	33.1	105.5	96	911.0	818.6	92.4	90
		1972	414.4	349.8	18.9	45.7	95	391.5	349.8	41.7	89
		1967	280.9	240.9	11.0	29.0	96	270.7	240.9	29.8	89
3296	Mineral wool	1977	1,790.5	1,608.1	128.2	54.3	93	1,684.0	1,608.1	75.9	96
		1972	755.4	686.6	48.7	20.1	93	738.6	686.6	52.0	93
		1967	454.4	404.9	35.2	14.1	92	425.0	404.9	20.1	95
3297	Nonclay refractories	1977	680.2	607.1	52.5	20.6	92	734.0	607.1	126.9	83
		1972	342.1	312.7	21.8	7.6	94	372.1	312.7	59.4	84
		1967	307.1	266.4	30.9	9.9	90	302.6	266.4	36.2	88
3299	Nonmetallic mineral products, n.e.c.	1977	387.3	347.1	27.2	13.0	93	391.1	347.1	44.0	89
		1972	166.5	152.1	9.1	5.3	94	169.7	152.1	17.6	90
		1967	99.9	77.5	16.4	5.9	82	87.5	77.6	9.9	89

(NA) Not available. n.e.c. Not elsewhere classified.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977**

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Abrasive products (SIC 3291)	Asbestos products (SIC 3292)	Gaskets, packing, and sealing devices (SIC 3293)	Minerals, ground or treated (SIC 3295)	Mineral wool (SIC 3296)	Nonclay refractories (SIC 3297)	Nonmetallic mineral products, n.e.c. (SIC 3299)	Other industries
	Total	(X)	1,955.8	882.1	1,267.1	957.3	1,790.5	680.2	387.3	(X)
	Primary products	(X)	1,667.9	781.4	1,116.3	818.6	1,608.1	607.1	347.1	(X)
	Secondary products	(X)	187.4	66.7	78.9	33.1	128.2	52.5	27.2	(X)
	Miscellaneous receipts	(X)	100.5	34.0	71.9	105.5	54.3	20.6	13.0	(X)
3291-	Abrasive products	1,721.8	1,667.9	-	-	-	-	(D)	-	(D)
32911	Nonmetallic sized grains, powders, and abrasives	350.1	342.7	-	-	-	-	(D)	-	(D)
32912	Nonmetallic bonded abrasive products	447.8	416.0	-	-	-	-	(D)	-	(D)
32913	Nonmetallic coated abrasive products	627.8	(D)	-	-	-	-	-	-	(D)
32914	Metal abrasives, including scouring pads	176.8	(D)	-	-	-	-	-	-	(D)
32910	Abrasives products, n.s.k	119.2	116.8	-	-	-	-	-	-	2.4
3292-	Asbestos products	960.1	-	781.4	(D)	-	(D)	-	-	155.7
32922	Asbestos friction materials	271.7	-	236.2	(D)	-	-	-	-	(D)
32928	Asphalt and vinyl asbestos floor tile	232.1	-	(D)	-	-	-	-	-	(D)
32929	Asbestos textiles, insulation, and asbestos-cement products	429.1	-	321.4	(D)	-	(D)	-	-	86.0
32920	Asbestos products, n.s.k	27.0	-	(D)	.9	-	-	-	-	(D)
3293-	Gaskets, packing, and sealing devices	1,254.8	(D)	7.6	1,116.3	-	(D)	-	-	125.8
32932	Gaskets and gasketing materials	501.0	(D)	(D)	429.2	-	(D)	-	-	65.5
32933	Packing and sealing devices	695.1	-	(D)	628.9	-	-	-	-	(D)
32930	Gaskets, packing, and sealing devices, n.s.k	58.7	-	(D)	58.2	-	-	-	-	(D)
32950	Minerals and earths, ground or otherwise treated	911.0	-	-	-	818.6	(D)	(D)	(D)	83.6
3296-	Mineral wool	1,684.0	(D)	-	(D)	- -	1,608.1	(D)	(D)	71.4
32963	Mineral wool structural insulation made from produced fiber	907.9	-	-	-	-	(D)	-	-	(D)
32964	Mineral wool industrial insulation made from produced fiber	457.0	-	-	-	-	(D)	-	(D)	(D)
32965	Mineral wool structural insulation made from purchased fiber	191.0	-	-	-	-	156.2	-	-	34.8
32966	Mineral wool industrial insulation made from purchased fiber	111.9	(D)	-	(D)	-	96.8	(D)	(D)	(D)
32960	Mineral wool, n.s.k	16.0	-	-	-	-	(D)	-	-	(D)
32970	Nonclay refractories	734.0	(D)	-	-	(D)	(D)	607.1	(D)	86.3
32990	Nonmetallic mineral products, n.e.c	391.1	(D)	-	-	(D)	(D)	-	347.1	32.9
	Other shipments by 4-digit product group:									
1453-	Fire clay	(X)	-	-	-	(D)	-	-	-	(X)
2261-	Finished broad woven cotton fabrics	(X)	(D)	-	-	-	-	-	-	(X)
2297-	Nonwoven fabrics	(X)	-	-	-	-	12.6	-	-	(X)
2499-	Wood products, n.e.c	(X)	-	-	-	-	15.7	-	-	(X)
2641-	Coated and glazed paper	(X)	(D)	-	-	-	-	-	-	(X)
2661-	Building paper and board	(X)	-	(D)	(D)	-	11.0	-	-	(X)
2821-	Plastics materials and resins	(X)	(D)	(D)	-	-	(D)	-	(D)	(X)
2841-	Soap and other detergents	(X)	(D)	-	(D)	-	-	-	-	(X)
2842-	Polishes and sanitation goods	(X)	(D)	-	-	-	-	-	-	(X)
2891-	Adhesives and sealants	(X)	(D)	1.3	-	(D)	(D)	(D)	(D)	(X)
2899-	Chemical preparations, n.e.c	(X)	(D)	-	-	(D)	-	(D)	(D)	(X)
2951-	Paving mixtures and blocks	(X)	-	-	-	(D)	(D)	-	-	(X)
3069-	Fabricated rubber products, n.e.c	(X)	(D)	(D)	(D)	-	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	(D)	(D)	-	-	(D)	(X)
3229-	Pressed and blown glass, n.e.c	(X)	-	-	(D)	-	(D)	.7	-	(X)
3255-	Clay refractories	(X)	-	-	-	.8	-	20.0	-	(X)
3274-	Lime	(X)	-	-	-	-	-	11.1	-	(X)
3275-	Gypsum products	(X)	-	-	-	(D)	-	-	(D)	(X)
3444-	Sheet metal work	(X)	(D)	-	-	-	(D)	-	(D)	(X)
3531-	Construction machinery	(X)	(D)	-	-	-	-	-	-	(X)
3541-	Machine tools, metal cutting types	(X)	(D)	-	-	-	-	-	-	(X)
3545-	Machine tool accessories	(X)	(D)	-	-	-	-	-	-	(X)
3559-	Special industry machinery, n.e.c	(X)	(D)	-	-	-	-	-	-	(X)
3564-	Blowers and fans	(X)	-	-	2.7	-	15.8	-	-	(X)
3569-	General industrial machinery, n.e.c	(X)	(D)	-	(D)	-	-	-	(D)	(X)
3589-	Service industry machinery, n.e.c	(X)	(D)	-	-	-	-	-	-	(X)
3629-	Electrical industrial apparatus, n.e.c	(X)	(D)	-	-	-	-	-	-	(X)
3661-	Telephone and telegraph apparatus	(X)	(D)	-	-	-	-	-	-	(X)
3662-	Radio and TV communication equipment	(X)	(D)	-	-	-	-	-	-	(X)
3714-	Motor vehicle parts and accessories	(X)	-	(D)	(D)	-	-	-	-	(X)
3728-	Aircraft equipment, n.e.c	(X)	(D)	(D)	-	-	-	-	(D)	(X)
3861-	Photographic equipment and supplies	(X)	(D)	-	-	-	-	-	-	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	(D)	(D)	2.3	42.9	(D)	(D)	-	(X)
99980 00	Other miscellaneous receipts	(X)	(D)	(D)	5.8	27.9	(D)	(D)	1.5	(X)
99989 00	Resales	(X)	94.6	31.6	63.8	34.6	44.7	14.3	11.6	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
3291-	3541 Machine tools, metal cutting types	(D)	3295-	1422 Crushed and broken limestone	(D)
	3559 Special industry machinery, n.e.c	(D)		1455 Kaolin and ball clay	(D)
				1499 Nonmetallic minerals, n.e.c	(D)
3292-	2952 Asphalt felts and coatings	76.1		3273 Ready-mixed concrete	(D)
	3079 Miscellaneous plastics products	(D)		3275 Gypsum products	16.1
	3714 Motor vehicle parts and accessories	(D)			
	3996 Hard surface floor coverings	(D)	3296-	2661 Building paper and board mills	(D)
				3229 Pressed and blown glass, n.e.c	(D)
				3255 Clay refractories	(D)
3293-	2899 Chemical preparations, n.e.c	(D)		3357 Nonferrous wire drawing and insulating	(D)
	3069 Fabricated rubber products, n.e.c	(D)			
	3079 Miscellaneous plastics products	(D)	3297-	3255 Clay refractories	46.2
	3264 Porcelain electrical supplies	(D)		3274 Lime	12.1
	3592 Carburetors, pistons, rings, valves	(D)		3624 Carbon and graphite products	(D)
	3714 Motor vehicle parts and accessories	(D)	3299-	3079 Miscellaneous plastics products	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	ABRASIVE PRODUCTS						
3291- --	Total	.....	(NA)	(X)	1,721.8	(X)	892.3
32911 --	Nonmetallic artificial sized grains, powders, and flour abrasives (graded products only)	.....	(NA)	(X)	350.1	(X)	140.3
32911 17	Silicon carbide	1,000 s. tons.	15	*282.2	114.8	(S)	33.7
32911 19	Aluminum oxide	1,000 s. tons.	13	**201.7	99.3	(S)	64.7
32911 29	Other artificial sized grains, powders, and flour, including combinations of silicon carbide and aluminum oxide, boron carbide, tungsten carbide, synthetic diamond, etc.	.....	16	(X)	135.6	(X)	40.5
32911 00	Nonmetallic artificial sized grains, powders, and flour abrasives (graded products only), n.s.k.	.....	(NA)	(X)	.4	(X)	1.5
32912 --	Nonmetallic bonded abrasive products, including diamond abrasives	.....	(NA)	(X)	447.8	(X)	309.3
	Artificial and natural bonded abrasives, including grinding wheels, sticks, stones, hones, balls, and bricks, but excluding refractory bricks, floor and stair brick, and similar byproducts:						
32912 31	Vitrified bond	.....	26	(X)	146.3	(X)	97.4
32912 37	Resinoid and shellac bond, reinforced	.....	31	(X)	75.0	(X)	43.3
32912 42	Resinoid and shellac bond, nonreinforced	.....	29	(X)	99.0	(X)	55.9
32912 44	Rubber bond	.....	11	(X)	22.3	(X)	13.0
32912 65	Other bonded abrasives	.....	4	(X)	4.2	(X)	7.6
	Diamond wheels:						
32912 72	Metal bond	1,000 carats..	15	(S)	31.1	(NA)	45.8
32912 74	Other bond	↕	16	6,215.3	31.4		
32912 76	Cubic boron nitride wheels, all bonds	1,000 carats..	7	(S)	2.7		
32912 48	Nonmetallic natural sized grains, powders, and flour	.....	3	(X)	6.1	(X)	3.0
32912 98	Other artificial and natural nonmetallic abrasives and abrasive products, except coated abrasives, including grinding, lapping, buffing compounds, bonded shaped tumbling media, crude lump forms, etc.	.....	18	(X)	26.1	(X)	9.4
32912 00	Nonmetallic bonded abrasive products, including diamond abrasives, n.s.k.	.....	(NA)	(X)	3.6	(X)	33.9
32913 --	Nonmetallic coated abrasive products and buffing wheels, polishing wheels, and laps	.....	(NA)	(X)	627.8	(X)	293.9
	Coated or impregnated with any natural or artificial abrasive materials:						
	Cloth, glue bond:						
32913 12	Belts	1,000 reams...	10	(S)	16.7	(S)	17.1
32913 14	Other shapes	↕	13	(S)	47.8	(S)	29.3
	Cloth, resin and waterproof bond:						
32913 16	Belts		14	(S)	170.2	(S)	77.4
32912 18	Other shapes		16	(S)	69.4	192.3	21.6
	Paper, glue bond:						
32913 22	Belts		7	(S)	100.4	170.7	6.6
32913 24	Other shapes		7			367.4	9.5
	Paper, resin and waterproof bond:						
32913 26	Belts		9	(S)	123.9	108.8	7.8
32913 28	Other shapes	1,000 reams...	9			(S)	6.0
32913 39	Other, including paper-cloth combination, vulcanized fibercloth combination, vulcanized fibers, etc.	.....	11	(X)	69.9	(S)	85.7
32913 71	Buffing and polishing wheels and laps made of cloth, leather, felt, and other materials (containing no abrasive grains, powders, or flour)	.....	18	(X)	28.6	(X)	26.3
32913 00	Nonmetallic coated abrasive products and buffing wheels, polishing wheels, and laps, n.s.k.	.....	(NA)	(X)	.8	(X)	6.5
32914 --	Metal abrasives, including scouring pads	.....	(NA)	(X)	176.8	(X)	107.4
32914 11	Steel and iron grit, shot, and sand	1,000 s. tons.	13	287.1	82.3	274.2	41.1
32914 31	Steel wool	1,000 s. tons.	5	8.4	15.5	(S)	6.8
32914 53	Metal pads with soap or other cleanser impregnated or in package	1,000 gross...	3	(S)	77.8	(S)	51.6
32914 98	Other metal abrasives and scouring pads	.....	9				
32914 00	Metal abrasives, including scouring pads, n.s.k.	.....	(NA)	(X)	1.2	(X)	7.8
32910 00	Abrasive products, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	60.2	(X)	27.4
32910 02	Abrasive products, n.s.k., typically for establishments with less than 20 employees see note	.....	(NA)	(X)	59.0	(X)	13.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[1]		Quantity of production for all purposes	Product shipments	
					Quantity[2]	Value (million dollars)		Quantity	Value (million dollars)
	ASBESTOS PRODUCTS								
3292- --	Total	.....	(NA)	(X)	(X)	960.1	(X)	(X)	742.6
32922 --	Asbestos friction materials	.....	(NA)	(X)	(X)	271.7	(X)	(X)	209.5
	Brake linings:								
32922 11	Woven, containing asbestos yarn, tape, or cloth	1,000 lin. ft.	9	(X)	(S)	28.1	(X)	(S)	10.2
32922 15	Molded, including all non-woven types	1,000 cu. ft.	18	(X)	(S)	154.1	(X)	(S)	113.1
32922 21	Disc brake pads	Mil. pieces	8	(X)				(S)	14.2
	Clutch facings:								
32922 51	Woven, containing asbestos yarn, tape, or cloth		2	(X)	89.5	89.1	(X)	18.1	19.9
32922 55	Molded, including all non-woven types	Mil. pieces	6	(X)			(X)	(S)	48.5
32922 00	Asbestos friction materials, n.s.k.	.....	(NA)	(X)	(X)	.3	(X)	(X)	3.6
32928 --	Asphalt and vinyl asbestos floor tile	.....	(NA)	(X)	(X)	232.1	(X)	(X)	208.4
32928 13	Asphalt floor tile	Mil. sq. yds.	3	(X)	(3)	(3)	(S)	9.8	9.1
	Vinyl asbestos floor tile:								
32928 15	Plain backed		6	(X)	94.5	166.2	129.3	129.4	151.3
32928 17	Adhesive backed	Mil. sq. yds.	6	(X)	327.4	365.9	(S)	(S)	48.0
32928 00	Asphalt and vinyl asbestos floor tile, n.s.k.	.....	(NA)	-	-	-	(X)	(X)	(X)
32929 --	Asbestos textiles, asbestos insulation, and other asbestos and asbestos-cement products	.....	(NA)	(X)	(X)	429.1	(X)	(X)	319.4
	Asbestos textiles:								
32929 11	Yarn, cord, and thread	Million lb.	3	(X)	(S)	15.7	(S)	17.5	13.7
32929 21	Cloth		6	(X)	(S)	17.4	(S)	11.1	15.1
32929 31	Other asbestos textiles, including roving, lap, wick, rope, tape, carded fibers, etc.		7	(X)	(S)	17.2	(S)	(S)	8.4
	Asbestos felts:								
32929 33	Roofing, asphalt, or tar saturated		9	(X)	(S)	69.6	(X)	(S)	23.2
32929 34	Other	Million lb.	5	(X)	(S)	27.7	(X)	(S)	13.3
	Insulation materials containing asbestos:								
32929 35	Pipe insulation	1,000 lin. ft.	3	(X)	(S)	11.1	(X)	(S)	20.7
32929 37	Other asbestos insulation, including block insulation	1,000 bd. ft.	5				(X)	(S)	12.8
	Asbestos-cement products:								
32929 41	Flat sheets and wallboard, all thicknesses converted to 1/4-inch basis	1,000 sq. ft.	9	(X)	79,954.7	25.3	(X)	(S)	20.7
32929 51	Corrugated sheets	1,000 sq. ft.	3	(X)			(X)	(S)	(4)
32929 73	Pipe, conduits, and ducts, excluding pressure pipe	1,000 s. tons.	5	(X)	(NA)	215.4	(X)	870.1	143.3
32929 75	Pressure pipe	1,000 s. tons.	4	(X)					
32929 77	Shingles and clapboard, including accessories	Mil. squares.	3	(X)	1.4	18.7	(X)	1.3	20.8
32929 98	Other asbestos and asbestos-cement products, including millboard and prefabricated housing components	.....	8	(X)	(X)	10.9	(X)	(X)	423.7
32929 00	Asbestos textiles, asbestos insulation, and other asbestos and asbestos-cement products, n.s.k.	.....	(NA)	(X)	(X)	.1	(X)	(X)	3.7
32929 00	Asbestos products, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	(X)	13.0	(X)	(X)	2.7
32929 02	Asbestos products, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	(X)	14.0	(X)	(X)	2.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	GASKETS, PACKING, AND SEALING DEVICES						
3293- --	Total		(NA)	(X)	1,254.8	(X)	714.7
32932 --	Gaskets and gasketing materials		(NA)	(X)	501.0	(X)	264.6
32932 13	Asbestos, compressed (all types of binders)		45	(X)	58.4	(X)	24.5
32932 15	Asbestos, beater saturated (all types of binders)		22	(X)	16.0	(X)	19.2
32932 17	Asbestos gasketing cloth, rubberized or fluorocarbon impregnated		13	(X)	7.5	(X)	2.4
32932 21	Cork and cork-rubber		41	(X)	30.1	(X)	23.6
32932 31	Rubber (elastomeric)		101	(X)	159.1	(X)	85.7
32932 43	Paper, felt base, and vegetable fiber (organic fiber)		32	(X)	51.3	(X)	19.2
32932 51	Metallic		38	(X)	120.7	(X)	54.7
32932 98	Other nonmetallic gaskets, including fluorocarbon gaskets and sheet		48	(X)	47.0	(X)	26.7
32932 00	Gaskets, all types, n.s.k.		(NA)	(X)	11.0	(X)	8.5
32933 --	Packing and sealing devices		(NA)	(X)	695.1	(X)	403.2
	Packing and seals, rubber:						
32933 21	Oil and grease seals, radial lip type		12	(X)	177.3	(X)	124.7
32933 27	O-rings, continuous molded, including O-rings used as drive belts		31	(X)	89.9	(X)	54.8
32933 31	Lip-type molded packings, single and multiple units (flange, cup, U-ring, V-ring, etc.)		23	(X)	43.7	(X)	18.4
32933 33	Squeeze type seals, except O-rings		10	(X)	24.6	(X)	(3)
32933 35	Diaphragm seals, all types		20	(X)	24.5	(X)	16.7
32933 39	All other molded packing and seals		21	(X)	34.1	(X)	549.7
32933 40	Plastics packing and seals, including O-rings		48	(X)	58.6	(X)	21.2
32933 51	Leather packing, oil and grease retainers, including seals		10	(X)	6.2	(X)	5.8
	Packing, except leather, rubber, and metal:						
32933 61	Compression packing for sealing moving and nonmoving parts		16	(X)	42.0	(X)	22.1
32933 69	All other packing and seals		18	(X)	82.4	(X)	22.3
32933 71	Axial mechanical seals		8	(X)	100.0	(X)	67.5
32933 00	Packing and asbestos insulation, n.s.k.		(NA)	(X)	11.8		
32930 00	Gaskets, packing, and sealing devices, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	24.6	(X)	33.0
32930 02	Gaskets, packing, and sealing devices, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	34.1	(X)	13.7
	MINERALS, GROUND OR TREATED						
3295- --	Total		(NA)	(X)	911.0	(X)	391.5
32950 11	Lightweight aggregate (such as diatomaceous earth, expanded clay, expanded slag, cinders, perlite, haydite, pumice, but excluding vermiculite)	1,000 s. tons.	36	(S)	79.8	(S)	39.6
	Exfoliated vermiculite:						
32950 13	Aggregate	Million cu. ft.	5	*21.5	12.3	(D)	(D)
32950 15	Other (such as loose fill insulation, acoustical, etc.)	Million cu. ft.	7	**44.4	26.4	(D)	(D)
32950 20	Refractory magnesia, including dead-burned magnesia or magnesite		8	(X)	66.7	(S)	27.6
32950 31	Crushed slag	1,000 s. tons.	23	2,649.9	66.3	22,216.0	48.1
32950 61	Crushed and ground uncalcined gypsum, including gypsite and anhydrite		5	*2,120.4	36.7	1,535.9	12.5
32950 81	Natural graphite, ground, refined, or blended		8	(D)	(D)	41.2	9.5
32950 84	Ground crude fire clay, high alumina clay, and silica fire clay		10	340.4	51.0	(S)	26.6
32950 85	Clays, artifically activated with acid or other materials		5	(D)	(D)		
32950 86	Mica, ground or treated		3	47.8	5.2		
32950 94	Talc, steatite, soapstone, and pyprophyllite, ground or otherwise treated	1,000 s. tons.	4	(D)	(D)	(D)	(D)
32950 98	Other minerals and earths, ground or otherwise treated, including feldspar, roofing granules, and ground barite		62	(X)	273.8		
32950 00	Minerals, ground or treated, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	92.8	(X)	49.1
32950 02	Minerals, ground or treated, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	12.8	(X)	15.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1977		
	MINERAL WOOL				
3296- --	Total		79	X	1,684.0
32963 --	Mineral wool for thermal and acoustical envelope insulation (for insulatin homes, and commercial and industrial buildings), made from fiber produced in the same establishment.		NA	(X)	907.9
32963 11	Loose fiber (blowing and pouring), shipped as such, and granulated fiber	1,000 s. tons.	NA	411.4	110.2
	Building batts, blankets, and rolls (in thermal resistance, R, values):				
32963 31	R-19.0 and over		NA	396.7	273.2
32963 35	R-11.0 to R-18.9		NA	445.2	322.7
32963 38	R-10.9 and under		NA	(S)	46.6
32963 51	Board, such as roof insulation		NA	(D)	[6]
32963 61	Acoustical, such as wall and ceiling (sold as acoustical insulation)	1,000 s. tons.	NA	(S)	[6]52.2
32963 98	Other mineral wool for thermal insulation[7]		NA	(X)	[6]103.0
32963 00	Mineral wool for thermal and acoustical envelope insulation made from fiber produced in the same establishment, n.s.k.		NA	X	(NA)
32964 --	Mineral wool for industrial, equipment, and appliance insulation made from fiber produced in the same establishment		NA	X	457.0
	Blankets (flexible), including fabricated pieces, rolls, and batts:				
32964 31	Plain	1,000 s. tons.	NA	169.6	143.5
32964 34	Coated		NA	17.6	31.2
32964 36	Faced and metal meshed		NA	26.5	38.7
32964 45	Special purpose insulation pieces, such as special purpose automotive, appliance, and aerospace items and original equipment parts		NA	12.5	21.8
32964 51	Other blocks and boards		NA	25.1	18.6
32964 61	Pipe insulation		NA	24.2	76.2
32964 83	Acoustical, including pads, boards, patches, etc	1,000 s. tons.	NA	26.4	31.3
32964 98	Other mineral wool for insulation, including air duct, loose fiber (shipped as such), granulated fiber, insulating and finishing cements, high temperature insulation fibers, etc.[7]		NA	(X)	95.7
32964 00	Mineral wool for industrial, equipment, and appliance insulation made from fiber produced in the same establishment, n.s.k.		NA	(X)	(NA)
32965 --	Mineral wool for thermal and acoustical envelope insulation (for insulating homes, and commercial and industrial buildings) made from fiber purchased or transferred from other establishments		NA	X	191.0
32965 11	Loose fiber (blowing and pouring), shipped as such, and granulated fiber	1,000 s. tons.	NA	-	-
	Building batts, blankets, and rolls (in thermal resistance, R, values):				
32965 31	R-19.0 and over		NA	(D)	(D)
32965 35	R-11.0 to R-18.9		NA	12.2	13.5
32965 38	R-10.9 and under		NA	(D)	(D)
32965 51	Board, such as roof insulation		NA	(D)	(D)
32965 61	Acoustical, such as wall and ceiling (sold as acoustical insulation)	1,000 s. tons.	NA	(S)	155.1
32965 98	Other mineral wool for thermal insulation[7]		NA	(X)	6.0
32965 00	Mineral wool for thermal and acoustical envelope insulation made from fiber purchased or transferred from other establishments, n.s.k.		NA	(X)	(NA)
32966 --	Mineral wool for industrial, equipment, and appliance insulation made from fiber purchased or transferred from other establishments		NA	X	111.9
	Blankets (flexible), including fabricated pieces, rolls, and batts:				
32966 31	Plain	1,000 s. tons.	NA	15.3	21.3
32966 34	Coated		NA	.6	1.2
32966 36	Faced and metal meshed		NA	(S)	7.0
32966 45	Special purpose insulation pieces, such as special purpose automotive, appliance, and aerospace items and original equipment parts		NA	9.2	18.6
32966 51	Other blocks and boards		NA	26.5	16.0
32966 61	Pipe insulation		NA	9.4	14.6
32966 83	Acoustical, including pads, boards, patches, etc	1,000 s. tons.	NA		
32966 98	Other mineral wool for insulation, including air duct, loose fiber (shipped as such), granulated fiber, insulating and finishing cements, high temperature insulation fibers, etc.[7]		NA	NA	33.2
32966 00	Mineral wool for industrial, equipment, and appliance insulation made from fiber purchased or transferred from other establishments, n.s.k.		NA	X	(NA)
32960 00	Mineral wool, n.s.k., typically for establishments with 20 employees or more (see note)		NA	X	2.4
32960 02	Mineral wool, n.s.k., typically for establishments with less than 20 employees (see note)		NA	(X)	13.6

See footnotes at end of table.

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1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments	
				Quantity	Value (million dollars)
			1972		
	MINERAL WOOL				
3296- --	Total	...	(X)	(X)	738.6
32961 --	Mineral wool for structural insulation	...	(X)	(X)	364.3
32961 11	Loose fiber (blowing and pouring), shipped as such, and granulated fiber	1,000 s. tons	X	331.3	37.2
	Building batts, blankets, and rolls (in thermal resistance, R, values):				
32961 31	R-19.0 and over	Million sq. ft.	X	687.0	47.4
32961 35	R-11.0 to R-18.9	↕	X	3,146.4	134.4
32961 38	R-7.0 to R-10.9	Million sq. ft.	X	2,260.4	77.4
32961 51	Board (such as roof insulation)	Million bd. ft.	(X)	(D)	D
32961 98	Other mineral wool for structural insulation, including air ducts	...	(X)	(X)	(D)
32961 00	Mineral wool for structural insulation, n.s.k.	...	X	(X)	1.8
32962 --	Mineral wool for industrial and equipment insulation	...	(X)	(X)	366.2
	Blankets (flexible), including fabricated pieces, rolls, and batts:				
32962 31	Plain	Million bd. ft.	X	(S)	60.1
32962 34	Coated	↕	(X)	(S)	15.6
32962 36	Faced and metal meshed	Million bd. ft.	(X)	(S)	19.8
32962 45	Molded insulation (such as special automotive, appliance, and aerospace items)	Million lb.	(X)	(S)	17.7
32962 51	Blocks and boards	Million bd. ft.	X	401.0	38.0
32962 61	Pipe insulation	Mil. lin. ft.	(X)	87.5	38.5
32962 71	Acoustical pads and boards, including ceiling tile	Million sq. ft.	X	1,098.3	147.3
32962 82	High temperature insulation fibers, including silica fiber and alumina-silica fiber	Million lb.	(X)	(D)	(D)
32962 98	Other mineral fiber for industrial, equipment, and appliance insulation, such as loose fiber (shipped as such), granulated fiber felts, insulating and finishing cements, air ducts, etc	...	(X)	X	20.5
32962 00	Mineral wool for industrial and equipment insulation, n.s.k.	...	X	(X)	(D)
32960 00	Mineral wool, n.s.k., typically for establishments with 20 employees or more (see note.)	...	(X)	(X)	6.0
32960 02	Mineral wool, n.s.k., typically for establishments with less than 20 employees (see note.)	...	(X)	(X)	2.2

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3297- --	NONCLAY REFRACTORIES						
	Total	...	(NA)	(X)	734.0	(X)	372.1
32970 --	Nonclay refractories, except dead-burned magnesia:						
	As reported in the census of manufactures	...	82	(X)	726.0	(X)	372.1
	As reported in Current Industrial Reports MQ-32C, Refractories	...	(NA)	(X)	718.9	(X)	363.1
	Brick and shapes:						
32970 12	Silica brick and shapes	Mil. 9 in. equiv.	(NA)	32.7	31.0	32.4	12.9
	Magnesite and magnesite-chrome brick and shapes (magnesite predominating products analyzing greater than 55% MgO):	↕					
32970 16	Pitch-bonded		(NA)	21.8	46.6	27.0	30.5
32970 17	Pitch-impregnated		(NA)	6.3	19.1	9.0	12.5
32970 18	Others		(NA)	62.3	147.5	51.7	64.6
32970 21	Chrome and chrome-magnesite brick and shapes (chrome predominating), excluding molten cast	Mil. 9 in. equiv.	(NA)	11.4	30.3	18.7	20.0
32970 33	Graphite crucibles, retorts, stopper heads, and other shaped refractories containing natural graphite	1,000 s. tons	(NA)	20.3	26.8	15.8	15.8
32970 52	Mullite brick and shapes made predominantly of kyanite, sillimanite, and alusite or synthetic mullite, excluding molten cast	Mil. 9 in. equiv.	(NA)	3.6	13.7	4.5	8.9
32970 53	Extra-high alumina brick and shapes made predominantly of fused bauxite, fused or dense-sintered alumina, excluding molten cast	↕	(NA)	12.1	28.7	2.5	8.6
32970 48	Silicon carbide kiln furniture (made predominantly of silicon carbide)		(NA)	1.8	11.3	1.3	5.0
32970 49	Silicon carbide brick and shapes (made predominantly of silicon carbide) except kiln furniture		(NA)	2.3	19.0	2.0	8.3
32970 55	Zircon and zirconia brick and shapes (made predominantly of either of these materials)	Mil. 9 in. equiv.	(NA)	3.3	16.0	1.8	6.6

See footnotes at end of table.

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(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3297- --	NONCLAY REFRACTORIES--Con.						
32970 --	Nonclay refractories, except dead-burned magnesia--Con. As reported in Current Industrial Reports MQ-32C, Refractories--Con.						
	Brick and shapes--Con.						
32970 57	Dolomite and dolomite-magnesite brick and shapes and other brick containing a substantial amount of dolomite grains	Mil. 9 in. equiv.	(NA)	30.4	109.0	33.9	64.0
32970 58	Other nonclay brick and shapes, n.s.k.						
32970 35	Carbon refractories; brick, blocks, and shapes, excluding those containing natural graphite	Mil. 9 in. equiv.					
	Mortars:						
32970 61	Basic bonding mortars (magnesite or chrome ore as principal component)	1,000 s. tons.	(NA)	8.7	2.5	11.5	1.4
32970 62	High alumina mortars		(NA)	15.4	6.5	(NA)	(NA)
32970 63	Other nonclay refractory mortars		(NA)	7.8	2.6	29.9	6.0
32970 91	Nonclay refractory castables (hydraulic setting) and portland or calcium aluminate cements		(NA)	38.1	18.0	49.3	12.8
	Plastic refractories and ramming mixes, wet and dry types:						
32970 65	Basic magnesite, dolomite, or chrome ore predominantly		(NA)	98.3	25.8	129.2	18.4
32970 67	Other nonclay plastic refractories and ramming mixes		(NA)	75.5	31.2	80.9	19.4
32970 71	Basic nonclay gunning mixes, including chrome, chrome-magnesia, magnesia-chrome, magnesia, and dolomite gunning mixes		(NA)	359.4	74.1	303.1	35.8
32970 73	Other nonclay gunning mixes						
32970 94	Other nonclay refractory materials sold in lump or ground form (domestic shipments for direct use as finished refractory products and exported material)		(NA)	213.8	24.7	342.6	11.6
32970 96	Other nonclay refractory materials sold in lump or ground form (all other domestic shipments)	1,000 s. tons.	(NA)	157.4	34.5		
32970 02	Nonclay refractories, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	8.0	(X)	-
	NONMETALLIC MINERAL PRODUCTS, N.E.C.						
3299- --	Total	.....	(NA)	(X)	391.1	(X)	169.7
32990 --	Other nonmetallic mineral products, n.e.c.:						
	Mica products:						
32990 53	Built-up sheet mica products	.....	7	(X)	16.9	(X)	18.5
32990 55	Other sheet mica products	.....	9	(X)	11.1	(X)	24.1
32990 56	Mica products, other than sheet	.....	7	(X)	15.8	[8]	[8]
32990 57	Calcium silicate pipe covering and blocks	.....	2	(X)	[9]	[8]	[8]
32990 58	Expanded perlite pipe covering, blocks, and elbows	.....	1	-	[9]	[8]	[8]
32990 61	Sand-lime brick, block and tile (2 1/4" x 3 5/8" equivalent)	Million bricks	2	[3]	[9]	237.0	8.0
32990 71	Synthetic diamonds, unworked, not set or strung	.....	1	(X)	[9]	[8]	[8]
32990 72	Synthetic precious and semiprecious stones, other than diamonds, unworked, not set or strung	.....	2	(X)	[9]	[8]	[8]
32990 81	Statuary and art goods (factory production)	.....	29	(X)	19.6	(X)	17.5
32990 98	Other nonmetallic mineral products, including magnesite floor composition, stucco, sapphire boule, etc	.....	37	(X)	[9]245.0	(X)	[2]59.6
32990 00	Other nonmetallic mineral products, n.e.c., n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	[10]50.4	(X)	23.3
32990 02	Other nonmetallic mineral products, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	32.4	(X)	18.8

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

Footnotes continued on next page.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1977, product code 32928 13 was included with product code 32928 17.

[4]For 1972, product code 32929 51 was included with product code 32923 98.

[5]For 1972, product code 32933 33 was included with product code 32933 39.

[6]For 1977, product code 32963 51 was included with product code 32963 98.

[7]Includes noninsulation mineral wool products not elsewhere classified.

[8]For 1972, product codes 32990 56, 32990 57, 32990 58, 32990 71, and 32990 81 were included with product code 32990 98 to avoid disclosing operations of individual companies.

[9]For 1977, product codes 32990 57, 32990 61, 32990 71, and 32990 72 were combined with product code 32990 98 to avoid disclosing operations of individual companies.

[10]In 1977, small establishments generally with 5-20 employees reported on short forms, which requested only product class totals. These data are included in codes ending with "00." Thus 1977 data for product codes (7 digits) may not be completely comparable with 1972 data.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
32911, NONMETALLIC SIZED GRAINS, POWDERS, AND ABRASIVES		
United States	350.1	140.3
New England Division:		
Massachusetts	68.9	39.5
Middle Atlantic Division:		
New York	132.6	46.8
Pennsylvania	32.7	CC
32912, NONMETALLIC BONDED ABRASIVE PRODUCTS		
United States	447.8	309.3
New England Division:		
Connecticut	17.8	12.2
Middle Atlantic Division:		
New Jersey	10.5	9.9
Pennsylvania	26.3	25.2
East North Central Division:		
Ohio	68.0	34.4
Illinois	48.8	28.6
Michigan	24.2	28.6
Pacific Division:		
California	8.8	EE
32913, NONMETALLIC COATED ABRASIVE PRODUCTS		
United States	627.8	293.9
New England Division:		
Massachusetts	11.4	10.4
Middle Atlantic Division:		
New York	94.2	GG
Pennsylvania	3.3	BB
East North Central Division:		
Ohio	22.0	EE
Illinois	6.5	3.7
Pacific Division:		
California	13.2	CC
32914, METAL ABRASIVES, INCLUDING SCOURING PADS		
United States	176.8	107.4
Middle Atlantic Division:		
New York	14.6	CC
Pennsylvania	20.1	12.8
East North Central Division:		
Ohio	46.7	26.3
Illinois	44.6	CC
Michigan	19.5	13.5
32922, ASBESTOS FRICTION MATERIALS		
United States	271.7	209.5
East North Central Division:		
Indiana	30.3	20.0
32928, ASPHALT AND VINYL ASBESTOS FLOOR TILE		
United States	232.1	208.4
East North Central Division:		
Illinois	72.6	(NA)
Pacific Division:		
California	35.8	33.2
32929, ASBESTOS TEXTILES, INSULATION AND ASBESTOS-CEMENT PRODUCTS		
United States	429.1	319.4
Middle Atlantic Division:		
New Jersey	55.1	47.8
Pennsylvania	33.5	20.6
East North Central Division:		
Wisconsin	2.3	GG
East South Central Division:		
Alabama	9.8	CC
32932, GASKETS AND GASKETING MATERIALS		
United States	501.0	264.6
New England Division:		
Massachusetts	20.8	10.9
Connecticut	12.0	EE
Middle Atlantic Division:		
New York	20.0	13.8
New Jersey	22.2	14.3
Pennsylvania	18.5	10.9
East North Central Division:		
Ohio	38.0	17.0
Indiana	12.8	CC
Illinois	93.9	60.9
Michigan	58.0	30.1
Wisconsin	26.1	EE
West North Central Division:		
Missouri	3.9	2.6
South Atlantic Division:		
South Carolina	7.1	(NA)
East South Central Division:		
Alabama	10.2	4.7
West South Central Division:		
Texas	30.6	15.6
Pacific Division:		
California	38.2	EE
32933, PACKING AND SEALING DEVICES		
United States	695.1	403.2
New England Division:		
Massachusetts	42.1	16.5
Connecticut	8.5	CC
Middle Atlantic Division:		
New York	38.0	17.4
Pennsylvania	17.6	20.4
East North Central Division:		
Ohio	36.0	30.5
Indiana	58.3	31.1
Illinois	184.7	103.1
Michigan	19.4	15.1
West North Central Division:		
Minnesota	10.9	BB
Missouri	3.5	(NA)
South Atlantic Division:		
North Carolina	25.8	CC
West South Central Division:		
Texas	19.8	EE
Pacific Division:		
California	45.0	FF

See footnotes at end of table.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972 - Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
32963, MINERAL WOOL STRUCTURAL INSULATION MADE FROM PRODUCED FIBER		
United States	907.9	(NA)
Middle Atlantic Division:		
Pennsylvania	49.7	(NA)
East North Central Division:		
Indiana	47.5	(NA)
West North Central Division:		
Kansas	159.3	(NA)
East South Central Division:		
Alabama	15.5	(NA)
Pacific Division:		
California	91.5	(NA)
32964, MINERAL WOOL INDUSTRIAL INSULATION MADE FROM PRODUCED FIBER		
United States	457.0	(NA)
Middle Atlantic Division:		
New Jersey	56.1	(NA)
32964, MINERAL WOOL INDUSTRIAL INSULATION MADE FROM PRODUCED FIBER--Con.		
East North Central Division:		
Indiana	66.7	(NA)
32965, MINERAL WOOL STRUCTURAL INSULATION MADE FROM PURCHASED FIBER		
United States	191.0	(NA)
Middle Atlantic Division:		
Pennsylvania	(D)	(NA)
West South Central Division:		
Texas	5.7	(NA)
Pacific Division:		
California	8.1	(NA)
32966, MINERAL WOOL INDUSTRIAL INSULATION MADE FROM PURCHASED FIBER		
United States	111.9	(NA)
East North Central Division:		
Ohio	9.9	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3291-	Abrasive products	1,721.8	1,430.8	1,230.5	1,245.6	1,064.5	892.3	734.2	572.2
32911	Nonmetallic sized grains, powders, and abrasives	350.1	260.6	220.0	235.7	154.1	140.3	101.5	74.3
32912	Nonmetallic bonded abrasive products	447.8	477.3	454.8	450.5	379.4	309.3	308.8	247.3
32913	Nonmetallic coated abrasive products	627.8	539.6	409.1	416.8	369.0	293.9	225.4	176.3
32914	Metal abrasives, including scouring pads	176.8	165.7	152.0	142.6	121.8	107.4	75.0	63.2
32910	Abrasive products, n.s.k.	119.2	([2])	([2])	-	40.2	41.4	23.5	11.1
3292-	Asbestos products	960.1	945.1	824.4	911.2	798.6	742.6	(NA)	(NA)
32922	Asbestos friction materials	271.7	315.5	271.7	274.7	229.9	209.5	144.4	117.7
32928	Asphalt and vinyl asbestos floor tile	232.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
32929	Asbestos textiles, insulation and asbestos-cement products	429.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
32920	Asbestos products, n.s.k.	27.0	6.1	8.8	11.1	11.9	5.3	3.6	1.1
3293-	Gaskets, packing, and sealing devices	1,254.8	972.2	787.0	813.4	761.1	714.7	(NA)	(NA)
32932	Gaskets and Gasketing materials	501.0	426.9	338.0	353.7	287.5	264.6	248.7	199.7
32933	Packing and sealing devices	695.1	532.6	422.4	434.8	429.4	403.2	(NA)	(NA)
32930	Gaskets, packing, and sealing devices, n.s.k.	58.7	(12.7)	(26.6)	(24.9)	44.2	46.7	28.6	11.3
32950	Minerals and earths, ground or otherwise treated	911.0	883.2	678.6	623.4	480.9	391.5	270.7	203.1
3296-	Mineral wool	1,684.0	1,334.8	1,110.6	1,014.1	849.5	738.7	425.0	356.0
32963	Mineral wool structural insulation made from produced fiber	907.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
32964	Mineral wool industrial insulation made from produced fiber	457.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
32965	Mineral wool structural insulation made from purchased fiber	191.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
32966	Mineral wool industrial insulation made from purchased fiber	111.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
32960	Mineral wool, n.s.k.	16.0	(21.3)	(1.8)	(1.2)	8.3	8.2	12.9	7.5
32970	Nonclay refractories	734.0	663.6	559.5	601.6	483.3	372.1	302.6	256.8
32990	Nonmetallic mineral products, n.e.c.	391.1	329.2	283.4	228.4	185.1	169.7	87.5	883.0

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have assoicated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3291, ABRASIVE PRODUCTS					
	Materials, parts, containers, and supplies		(X)	799.1	(X)	310.0
149941	Natural abrasive materials		(X)	50.8	(X)	[2]20.0
281950	Aluminum oxide	Thousand s. tons	**208.5	102.7	(X)	([3])
281992	Silicon carbide		(S)	42.3	(X)	([3])
281962	Alumina zirconia	Thousand s. tons	*21.5	18.6	(X)	([3])
280009	Other industrial chemicals		(X)	22.5	(X)	([3])
289101	Glues and adhesives	Million lb	(S)	41.1	(X)	[2]19.0
220101	Cotton and manmade fiber fabrics, broadwoven and narrow woven		(X)	81.4	(X)	[2]44.0
260002	Paper and paperboard products		(X)	47.8	(X)	[2]20.0
970099	All other materials and components, parts, containers, and supplies		(X)	213.9	(X)	[3]207.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	177.9	(X)	
	INDUSTRY 3292, ASBESTOS PRODUCTS					
	Materials, parts, containers, and supplies		(X)	391.4	(X)	288.9
149971	Asbestos, crude, including fiber	1,000 s. tons	311.2	107.7	448.1	78.7
324101	Portland cement	1,000 s. tons	399.1	17.8	504.8	13.4
207010	Vegetable oils, including crude and processed	Million lb	10.0	3.3	28.5	3.5
249941	Cork products		(X)	(Z)	(X)	([5])
266111	Building paper and board		(X)	.1	(X)	([5])
280023	Pigment, organic and inorganic	Million lb	18.4	9.5	57.3	13.5
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes		216.0	66.1	(X)	26.9
282202	Synthetic rubber	Million lb	(D)	(D)	(X)	
	Natural rubber:					
084913	Latex (dry solids content)	1,000 s. tons	1.7	1.4	(X)	([5])
084915	Dry	1,000 s. tons	(Z)	(Z)	(X)	([5])
289102	Adhesives and sealants		(X)	1.9	(X)	[2]3.0
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	(D)	(X)	[2]5.0
331018	Tin plate, terne plate, and black plate	1,000 s. tons	(D)	(D)	(X)	([5])
335002	Nonferrous metal mill shapes and forms		(D)	(D)	(X)	([5])
349012	Fabricated wire products, including springs and spring wire	1,000 s. tons	(D)	(D)	(X)	([5])
970099	All other materials and components, parts, containers, and supplies		(X)	142.1	(X)	[5]136.4
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	28.1	(X)	8.5
	INDUSTRY 3293, GASKETS, PACKING, AND SEALING DEVICES					
	Materials, parts, containers, and supplies		(X)	450.2	(X)	228.0
149971	Asbestos, crude, including fiber	1,000 s. tons	(S)	22.0	(S)	13.6
249941	Cork products		(X)	8.9	(X)	([6])
266111	Building paper and board		(X)	(D)	(X)	([6])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(S)	15.0	(X)	[6]
282202	Synthetic rubber	Million lb	(S)	50.5	(X)	([6])
	Natural rubber:					
084913	Latex (dry solids content)	1,000 s. tons	(S)	1.1	(X)	([6])
084915	Dry	1,000 s. tons	(S)	10.3	(X)	([6])
289102	Adhesives and sealants		(X)	2.8	(X)	([6])
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	12.8	(X)	([6])
331018	Tin plate, terne plate, and black plate	1,000 s. tons	(S)	12.3	(X)	([6])
335002	Nonferrous metal mill shapes and forms		(D)	(D)	(X)	([6])
349012	Fabricated wire products, including springs and spring wire	1,000 s. tons	(S)	10.4	(X)	([6])
970099	All other materials and components, parts, containers, and supplies		(X)	244.1	(X)	178.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]				(X)	35.7
	INDUSTRY 3295, MINERALS, GROUND OR TREATED					
	(Materials consumed data were not collected)					
	INDUSTRY 3296, MINERAL WOOL					
	Materials, parts, containers, and supplies		(X)	546.3	(X)	257.9
145501	Clay		(X)	6.2	(X)	3.0
147001	Barite, borate, potash, fluorspar, and rocksalt		(X)	36.1	(X)	8.0
220101	Cotton and manmade fiber fabrics, broad woven and narrow woven		(X)	14.5	(X)	12.0
264338	Paper shipping sacks	1,000 s. tons	**40.7	13.6	(X)	9.0
265001	Paperboard containers and boxes, including folding corrugated, fiber, and setup	1,000 s. tons	(S)	13.2	(X)	7.0
260001	All other paper and paperboard products		(S)	47.4	(X)	16.0
281000	Industrial inorganic chemicals		(X)	49.6	(X)	([7])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	**215.7	37.5	(X)	21.0

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3296, MINERAL WOOL--Con.					
307903	Plastics products consumed in the form of sheets, rods, and tubes, and other shapes	.....	(X)	12.7	(X)	11.0
289101	Glues and adhesives	.....	(X)	13.0	(X)	27.0
329103	Abrasives and miscellaneous nonmetallic minerals products	.....	(X)	13.7	(X)	16.0
329201	Asbestos products	.....	(D)	(D)	(X)	[7]
331212	Crude blast furnace slag	1,000 s. tons..	1,057.5	9.9	(X)	13.0
335301	Aluminum sheet, plate, and foil	1,000 s. tons..	*7.6	11.0	(X)	[7]
349702	Converted aluminum foil	Million lb.....	(D)	(D)	(X)	7.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	233.9	(X)	[7]107.9
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	27.6	(X)	
	INDUSTRY 3297. NONCLAY REFRACTORIES					
	Materials, parts, containers, and supplies	.....	(X)	284.0	(X)	[7]131.0
145001	Clay, ceramic, and refractory minerals	1,000 s. tons..	*309.8	50.4	(X)	6.0
327404	Dead-burned dolomite		(NA)	[8]	(X)	5.0
329502	Dead-burned magnesia or magnesite		*429.7	71.5	(X)	[9]
320591	Refractories, clay or nonclay	1,000 s. tons..	(S)	35.7	(X)	2.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[8]84.4	(X)	[9]15.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	42.0	(X)	103.0
	INDUSTRY 3299. NONMETALLIC MINERAL PRODUCTS. N.E.C.					
	(Materials consumed data were not collected)					

(D) Withheld to avoid disclosing operations of individual companies. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated. ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[3]For 1972, material codes 280009, 281950, 281992, and 281962 were included with material code 970099.

[4]Total cost of materials of establishments that did not report detailed material data, including establishments that were not mailed a form.

[5]For 1972, material codes 249941, 266111, 282202, 084913, 084915, 331018, 335002, and 349012 were included with material code 970099.

[6]For 1972, material code 971000 was included with material code 970099.

[7]For 1972, materials codes 281000, 329201, and 335301 were included with material code 970099.

[8]For 1977, material code 327404 was included with 970099.

[9]For 1972, material code 329502 was included with 970099.

Blast Furnaces, Steel Works, and Rolling and Finishing Mills

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DESCRIPTION OF INDUSTRIES

BLAST FURNACES, STEEL WORKS, AND ROLLING AND FINISHING MILLS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3312	Blast Furnaces and Steel Mills
3313	Electrometallurgical Products
3315	Steel Wire and Related Products
3316	Cold Finishing of Steel Shapes
3317	Steel Pipe and Tubes

The industry statistics (employment, payroll; cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3312, BLAST FURNACES AND STEEL MILLS

This industry comprises establishments primarily engaged in the manufacture of hot metal, pig iron, silvery pig iron, and ferroalloys from iron ore and iron and steel scrap; converting pig iron, scrap iron, and scrap steel into steel; and in hot rolling iron and steel into basic shapes such as plates, sheets, strips, rods, bars, and tubing. Merchant blast furnaces and byproduct or beehive coke ovens are also included in this industry. Establishments primarily engaged in the manufacture of ferro and nonferrous additive alloys by electrometallurgical processes are classified in industry 3313.

Included in this industry are all establishments engaged in the manufacture of blast furnace ferroalloys. Also, establishments which draw wire from purchased rod and bar; establishments which perform only cold rolling, drawing, or finishing operations; and establishments which produce welded, seamless, and heavy riveted pipe from purchased materials are not included in industry 3312, but are included in Industry 3315, Steel Wire and Related Products; Industry 3316, Cold Finishing of Steel Shapes; and Industry 3317, Steel Pipe and Tubes, respectively.

Total cost of materials and the total value of shipments in industry 3312 include extensive duplication resulting from the use of the products of some establishments as materials by others. Some quantities of coke are transferred to blast furnaces which have no affiliated coke ovens, and considerable quantities of pig iron are transferred from blast furnaces to partially integrated mills. In addition, steel ingots, semifinished shapes, and finished shapes and forms are transferred from one establishment to another for further processing. The value of such shipments appears twice in the total value of shipments, and a corresponding duplication enters into the total cost of materials, etc. This duplication does not exist in the data on value added by manufacture.

Based on departmental operations data, it was possible to further classify the establishments of this industry into four subindustries; i.e., fully integrated establishments, partially integrated establishments with blast furnaces, partially integrated establishments without blast furnaces, and nonintegrated establishments. For purposes of this classification system, an establishment was defined as follows: Fully integrated if the establishment consisted of coke ovens, blast furnaces, steel furnaces, and rolling and finishing mills; partially integrated establishment with blast furnaces if the establishment consisted of blast furnaces, steel furnaces, and rolling and finishing mills; partially integrated establishment without blast furnaces if the establishment consisted of steel furnaces and either rolling and finishing mills or a forging department; and nonintegrated for all other establishments including beehive coke ovens, byproduct coke ovens operated independently of blast furnaces and steel departments, merchant blast furnaces, and establishments with hot rolling and finishing operations.

In a few cases, operations which are in fact fully integrated are classified as partially integrated or nonintegrated because separate reports were collected, either because the operations are conducted in different cities or counties or the company treats the operations separately for their own administrative reasons. The subindustry data shown in tables 1, 2, and 4 are based on this system of classification.

The total value of shipments for establishments classified in the Blast Furnaces and Steel Mills industry amounted to $41,998 million in 1977, an increase of 75 percent from 1972. The value of shipments of products classified as primary to the industry was $46,066 million, an increase of 79 percent from 1972. (See the Introduction for a discussion of the difference

between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $15,332 million in 1977, was 47 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 441.9 thousand employees, a decrease of 6 percent from 1972. The leading States in employment were Pennsylvania, Ohio, Indiana, and Illinois, accounting for approximately 66 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of steel mill shapes at broad product class levels only. This is the source of the data in table 6a-1 described "As reported in census of manufactures." More detailed product data are published in Current Industrial Reports, (CIR) MA-33B, Steel Mill Products. These data are shown in tables 6a-2 and 6a-3.

Net shipments of steel products (as derived from Form MA-33B) including both the shipments to establishments outside the steel industry and the amounts consumed in the steel mills in the production of fabricated products and for maintenance, repair, and operating supplies, are shown in table 6a-3.

The figures on steel mill shapes shown in tables 6a-1 to 6a-3 include the manufacture of these products in separate cold rolling and drawing establishments, wiredrawing plants, and pipe mills as well as steel mills. The receipts of steel at these plants have been taken into account in deriving the net shipment figures shown in table 6a-3.

While the primary products of the industry include a broad range of products, the establishments tend to group themselves into specific product classes within the industry. The extent of this specialization is indicated in table 5a.

Data on shipments of pig iron, by grade, are published by the Bureau of Mines in its Minerals Yearbook. These data are reprinted in table 6a-4 and differ from the data reported in the census in that they include the tonnages of pig iron produced and consumed in the same establishment. Other differences of minor consequence also exist.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 3313, ELECTROMETALLURGICAL PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of ferro and nonferrous additive alloys by electrometallurgical or metallothermic processes, including high percentage ferroalloys and high percentage nonferrous additive alloys.

The total value of shipments for establishments classified in the Electrometallurgical Products industry amounted to $931 million in 1977, an increase of 69 percent from 1972. The value of shipments of products classified as primary to the industry was $944 million, an increase of 59 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $275 million in 1977, was 26 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.9 thousand employees, a decrease of 6 percent from 1972. The leading States in employment were Ohio, West Virginia, Oregon, and Tennessee, accounting for approximately 70 percent of the industry's 1977 employment. Data for West Virginia and Oregon have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 3315, STEEL WIRE AND RELATED PRODUCTS

This industry comprises establishments primarily engaged in drawing wire from purchased iron or steel rods, bars, or wire, and which may be engaged in the further manufacture of products made from wire. Establishments primarily engaged in the manufacture of steel nails and spikes from purchased materials are also included in this industry. Rolling mills engaged in the production of ferrous wire from wire rods or hot rolled bars produced in the same establishment are classified in industry 3312. Establishments primarily engaged in drawing nonferrous wire are classified in industry group 335. Establishments primarily engaged in the manufacture of fabricated wire products from purchased wire are classified in industry 3496.

The total value of shipments for establishments classified in the Steel Wire and Related Products industry amounted to $2,259 million in 1977, an increase of 84 percent from 1972. The value of shipments of products classified as primary to the industry was $4,369 million, an increase of 68 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $924 million in 1977, was 58 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 31.7 thousand employees, an increase of 4 percent from 1972. The leading States in employment were Pennsylvania, Ohio, Illinois, and Massachusetts, accounting for approximately 40 percent of the

industry's 1977 employment. Data for Pennsylvania have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of steel wire only at product class levels. This is the source of the data in table 6a described "As reported in census of manufacture." Detailed figures on the shipments of steel wire are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-33B, Steel Products. Some of these data are also shown in table 6a.

Certain products primary to industry 3315 are also primary to industries 3312 and 3496. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3316, COLD FINISHING OF STEEL SHAPES

This industry comprises establishments primarily engaged in (1) cold rolling steel sheets and strip from purchased hot rolled sheets; (2) cold drawing steel bars and steel shapes from purchased hot rolled steel bars; and (3) producing other cold finished steel. Establishments primarily engaged in the production of steel, including hot rolled steel sheets, and further cold rolling such sheets are classified in industry 3312.

The total value of shipments for establishments classified in the Cold Finishing of Steel Shapes industry amounted to $2,713 million in 1977, an increase of 66 percent from 1972. The value of shipments of products classified as primary to the industry was $9,939 million, an increase of 103 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $800 million in 1977, was 58 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 19.4 thousand employees, a decrease of 3 percent from 1972. The leading States in employment were Pennsylvania, Ohio, Connecticut, and Michigan, accounting for approximately 69 percent of the industry's 1977 employment.

The 1977 census obtained data on cold finished steel shapes only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of cold finished steel shapes are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-33B, Steel Mill Products. Some of these data are also shown in table 6a.

Certain products primarily to industry 3316 are also primary to industry 3312. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3317, STEEL PIPE AND TUBES

This industry comprises establishments primarily engaged in the production of welded or seamless steel pipe and tubes and heavy riveted steel pipe from purchased materials. Establishments primarily engaged in the production of steel, including steel skelp or steel blanks, tube rounds, or pierced billets, are classified in industry 3312. Establishments primarily engaged in the fabrication of pipe and tube from purchased pipe and tube are classified in industry 3498.

The total value of shipments for establishments classified in the Steel Pipe and Tubes industry amounted to $2,681 million in 1977, an increase of 107 percent from 1972. The value of shipments of products classified as primary to the industry was $5,621 million, an increase of 103 percent from 1972. (See the Introduction for a discussion of the diffrence between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $988 million in 1977, was 95 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 27.8 thousand employees, an increase of 18 percent from 1972. The leading States in employment were Ohio, Pennsylvania, California, and Michigan, accounting for approximately 54 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of steel pipe and tubes only at product class levels. This is the source of the data in table 6a described "As reported in census of manufacture." Detailed figures on the shipments of steel pipe and tubes are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-33B, Steel Mill Products. Some of these data are also shown in table 6a.

Certain products primary to industry 3317 are also primary to industry 3312. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3312, BLAST FURNACES AND STEEL MILLS																
1977 Census--	396	504	250	441.9	8 725.7	350.2	668.7	6 653.0	15 331.9	26 715.0	41 998.2	2 143.1	(NA)	8 471.6	(NA)	(NA)
1976 ASM----	(NA)	(NA)	(NA)	451.9	8 041.7	358.0	680.9	6 100.7	14 755.5	25 665.9	39 684.1	2 142.3	32 645.8	8 850.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	451.3	7 076.4	354.8	657.7	5 298.5	13 356.2	23 162.3	35 659.8	2 068.0	30 880.5	7 428.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	518.0	7 513.2	412.3	811.5	5 848.8	17 425.8	24 341.6	41 671.7	1 643.4	29 395.6	5 632.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	502.1	6 480.9	409.9	822.8	5 065.2	12 769.4	17 382.5	30 365.5	1 110.5	28 018.4	4 502.6	(NA)	(NA)
1972 Census--	241	364	251	469.1	5 537.8	379.3	739.1	4 254.3	10 304.7	14 022.6	23 946.7	961.2	27 083.3	4 571.6	(NA)	(NA)
1971 ASM----	(NA)	(NA)	(NA)	482.2	4 968.9	385.0	737.9	3 743.8	9 563.1	12 263.7	21 971.3	1 005.4	26 486.7	4 240.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	526.5	5 060.3	424.7	822.5	3 854.6	9 350.5	12 381.3	21 501.6	1 329.9	25 850.4	4 337.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	537.7	5 092.9	436.4	872.5	3 925.5	9 853.2	12 686.7	22 299.0	1 574.5	24 707.1	3 863.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	533.1	4 719.7	432.9	856.7	3 628.9	9 275.8	11 679.5	21 161.1	1 794.7	22 654.5	3 663.2	(NA)	(NA)
1967 Census--	200	329	259	533.1	4 385.3	434.0	845.4	3 368.4	8 910.1	10 997.9	19 620.6	1 661.0	21 524.5	3 936.0	(NA)	(NA)
1966 ASM----	(NA)	(NA)	(NA)	559.4	4 540.7	460.4	904.9	3 554.1	9 643.7	11 829.5	21 193.9	1 595.9	(NA)	3 644.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	565.4	4 431.6	464.5	912.9	3 498.5	9 379.8	11 387.3	20 841.7	1 364.0	(NA)	3 218.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	532.9	4 117.9	443.9	880.9	3 249.7	8 479.6	10 537.9	18 840.1	1 282.9	17 720.4	3 248.2	(NA)	(NA)
1963 Census--	161	288	247	500.6	3 711.6	412.3	791.4	2 892.0	7 506.4	8 958.7	16 418.0	908.4	16 604.0	3 146.6	(NA)	(NA)
INDUSTRY 3313, ELECTROMETALLURGICAL PRODUCTS																
1977 Census--	28	42	31	8.9	139.2	7.0	14.3	103.9	274.6	687.0	930.6	53.2	(NA)	403.8	(D)	90
1976 ASM----	(NA)	(NA)	(NA)	8.3	118.5	6.6	12.8	88.2	289.9	593.8	854.6	77.7	743.3	358.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.9	111.9	7.2	14.0	84.4	381.0	545.6	833.1	66.2	690.5	331.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	9.2	109.3	7.6	15.0	85.4	426.4	546.7	958.4	61.1	616.7	187.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.3	100.3	7.8	15.3	77.3	210.3	422.9	670.6	42.0	597.6	131.5	(NA)	(NA)
1972 Census--	27	40	31	9.5	94.1	7.8	15.1	71.7	217.2	335.4	550.1	26.3	567.1	173.0	(D)	87
1971 ASM----	(NA)	(NA)	(NA)	10.1	93.7	8.3	16.3	70.9	243.8	340.7	554.7	34.4	564.7	178.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	10.4	92.6	8.6	17.6	72.2	199.0	331.3	519.3	28.0	569.6	140.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	10.5	87.8	8.7	18.0	68.3	231.6	355.9	582.9	24.9	522.5	125.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	10.7	84.0	8.8	18.2	63.5	197.5	295.7	486.5	32.3	536.4	118.3	(NA)	(NA)
1967 Census--	21	34	31	10.4	79.0	8.4	17.2	58.6	193.2	289.9	467.9	29.3	508.8	114.0	(D)	82
1966 ASM----	(NA)	(NA)	(NA)	10.3	75.5	8.3	17.0	56.0	197.8	303.5	509.3	23.6	(NA)	105.4	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	10.9	76.7	9.0	18.5	59.3	216.8	272.4	479.0	20.7	(NA)	95.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	11.0	76.4	9.0	18.7	59.0	150.8	269.3	437.3	17.6	474.0	76.0	(NA)	(NA)
1963 Census--	20	36	30	10.4	68.9	8.2	16.6	50.8	145.5	228.0	382.1	13.4	462.8	93.9	(D)	77
INDUSTRY 3315, STEEL WIRE AND RELATED PRODUCTS																
1977 Census--	262	335	223	31.7	436.6	24.3	49.0	304.9	924.4	1 341.2	2 258.6	79.4	(NA)	422.8	95	47
1976 ASM----	(NA)	(NA)	(NA)	32.9	421.6	24.2	49.2	284.0	886.2	1 150.2	2 012.5	53.4	665.6	416.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	30.0	357.0	22.8	45.5	240.8	731.7	1 062.8	1 800.5	56.8	612.1	377.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	33.8	385.1	27.2	54.0	266.0	923.5	1 148.9	1 995.0	48.7	535.1	436.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	33.5	338.8	26.8	54.7	244.4	722.0	833.5	1 556.4	43.6	523.2	291.6	(NA)	(NA)
1972 Census--	235	289	199	30.6	287.9	24.1	49.4	202.1	583.5	657.8	1 227.7	26.6	482.5	263.9	94	42
1971 ASM----	(NA)	(NA)	(NA)	26.2	241.4	20.6	42.8	169.8	471.4	584.7	1 058.3	30.8	473.1	226.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	28.2	236.5	22.3	45.8	170.5	443.7	557.5	985.3	34.8	472.4	214.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	28.9	229.9	23.2	52.1	160.8	501.3	542.8	1 030.2	34.5	483.4	198.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	27.9	213.9	22.2	49.6	148.2	458.4	500.6	953.7	46.6	(S)	183.6	(NA)	(NA)
1967 Census--	200	240	171	27.3	194.8	21.7	44.1	138.0	385.6	467.5	845.2	56.9	(S)	162.2	90	37
1966 ASM----	(NA)	(NA)	(NA)	25.2	179.4	19.9	42.7	130.0	352.9	448.4	799.6	22.5	(NA)	147.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	24.0	165.8	18.9	39.8	118.7	332.3	422.2	750.3	20.5	(NA)	148.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	22.1	146.9	17.3	35.2	104.3	283.5	370.5	647.1	19.0	282.4	112.2	(NA)	(NA)
1963 Census--	171	200	133	21.3	134.6	16.9	34.4	97.1	253.0	336.7	592.3	14.0	265.1	110.4	89	30
INDUSTRY 3316, COLD FINISHING OF STEEL SHAPES																
1977 Census--	117	155	94	19.4	334.6	14.6	28.7	238.8	799.6	1 936.8	2 713.2	49.6	(NA)	436.6	95	25
1976 ASM----	(NA)	(NA)	(NA)	17.3	265.1	12.9	25.1	184.1	627.0	1 649.8	2 248.5	42.2	587.0	378.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	16.1	219.3	11.7	21.9	146.7	410.6	1 280.7	1 703.5	48.9	583.0	322.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	22.4	292.8	17.1	34.1	210.5	291.8	1 750.0	2 650.3	61.5	681.6	374.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	21.1	252.7	16.5	34.0	185.8	597.0	1 420.9	2 028.2	30.1	642.6	266.9	(NA)	(NA)
1972 Census--	86	125	93	20.1	223.3	15.6	31.8	162.3	504.6	1 144.2	1 635.7	20.6	629.5	289.8	91	29
1971 ASM----	(NA)	(NA)	(NA)	16.1	159.0	12.0	23.4	108.7	273.8	816.7	1 110.1	22.7	516.9	226.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	18.4	166.9	13.7	26.6	112.8	374.4	822.9	1 136.3	40.1	700.9	276.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	19.8	185.8	15.0	31.8	129.4	501.3	928.0	1 275.3	33.4	677.9	219.4	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	19.6	166.2	14.8	30.5	119.5	322.9	799.4	1 112.6	39.9	(S)	202.8	(NA)	(NA)
1967 Census--	77	107	86	19.5	154.9	14.9	29.8	108.8	269.1	777.5	1 038.7	126.0	(S)	188.4	90	24
1966 ASM----	(NA)	(NA)	(NA)	17.0	135.7	13.3	28.1	99.1	306.6	673.8	975.7	22.5	(NA)	142.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	16.0	124.4	12.5	26.4	92.7	285.7	634.7	917.7	20.8	(NA)	138.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	14.2	108.3	10.9	23.7	79.3	222.8	583.0	798.1	11.8	267.9	130.0	(NA)	(NA)
1963 Census--	59	81	68	13.7	99.6	10.6	21.8	71.5	224.0	530.0	751.6	14.9	254.4	109.4	94	20

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3317, STEEL PIPE AND TUBES															
1977 Census--	130	180	142	27.8	449.4	21.8	43.7	330.6	987.9	1 731.9	2 681.4	117.5	(NA)	571.6	95	44
1976 ASM----	(NA)	(NA)	(NA)	21.7	319.1	16.7	32.5	226.9	715.3	1 171.0	1 887.6	57.0	576.8	415.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	25.5	341.7	19.9	39.4	247.5	903.7	1 360.4	2 214.8	47.8	614.8	417.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	27.6	340.6	21.8	45.2	253.5	993.3	1 412.0	2 373.4	42.6	588.4	379.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	25.8	294.5	20.7	43.6	221.9	636.2	999.8	1 619.6	37.7	512.8	260.0	(NA)	(NA)
1972 Census--	115	152	122	23.6	245.5	18.8	39.0	181.8	506.1	807.9	1 292.1	24.1	484.1	235.1	93	42
1971 ASM----	(NA)	(NA)	(NA)	21.5	204.9	16.9	34.1	145.5	426.3	671.9	1 095.9	17.6	445.6	218.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	23.4	206.6	18.3	36.8	148.5	420.4	633.1	1 048.5	32.8	457.1	193.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	27.4	236.4	21.9	45.3	174.3	428.1	807.5	1 226.0	36.4	488.4	210.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	26.5	216.1	21.4	44.0	160.5	419.1	788.6	1 193.9	43.4	456.7	214.6	(NA)	(NA)
1967 Census--	123	151	126	27.0	207.9	21.8	45.1	155.4	412.1	754.4	1 148.6	37.8	428.6	205.6	89	38
1966 ASM----	(NA)	(NA)	(NA)	26.0	194.7	20.9	44.7	144.4	416.5	668.6	1 072.3	28.0	(NA)	180.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	24.7	175.2	19.6	41.4	129.3	379.8	612.4	976.3	26.3	(NA)	165.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	23.4	164.6	18.7	39.9	121.4	293.2	580.7	903.3	31.5	373.1	145.1	(NA)	(NA)
1963 Census--	114	141	115	22.9	153.1	18.3	37.9	113.7	295.2	517.3	809.0	23.6	343.1	152.0	91	37

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3312, BLAST FURNACES AND STEEL MILLS											
1977 Census--	19 745	(NA)	79	1 909	9.94	63	84	(NA)	34 694	56	22.92
1976 ASM----	17 795	72 241	79	1 901	8.95	64	84	82	32 652	54	21.67
1975 ASM----	15 680	68 425	78	1 853	8.05	64	84	86	29 594	52	20.30
1974 ASM----	14 504	56 748	79	1 968	7.20	58	76	70	33 640	43	21.47
1973 ASM----	12 907	55 802	81	2 007	6.15	57	78	92	25 431	50	15.51
1972 Census--	11 805	57 734	80	1 948	5.75	58	81	113	21 966	53	13.94
1971 ASM----	10 304	54 928	79	1 916	5.07	55	78	120	19 832	51	12.95
1970 ASM----	9 611	49 098	80	1 936	4.68	57	81	120	17 759	54	11.36
1969 ASM----	9 471	45 949	81	1 999	4.49	56	79	110	18 324	51	11.29
1968 ASM----	8 853	42 495	81	1 978	4.23	55	77	107	17 399	50	10.82
1967 Census--	8 226	40 376	81	1 947	3.98	56	78	109	16 713	49	10.53
1966 ASM----	8 117	(NA)	82	1 965	3.92	55	77	(NA)	17 239	47	10.65
1965 ASM----	7 837	(NA)	82	1 965	3.83	54	75	(NA)	16 589	47	10.27
1964 ASM----	7 727	33 252	83	1 984	3.68	55	77	94	15 912	48	9.62
1963 Census--	7 414	33 168	82	1 919	3.65	54	77	101	14 994	49	9.48
INDUSTRY 3313, ELECTROMETALLURGICAL PRODUCTS											
1977 Census--	15 686	(NA)	79	2 044	7.24	73	88	(NA)	30 946	50	19.15
1976 ASM----	14 277	89 554	79	1 939	6.89	69	83	86	34 927	40	22.64
1975 ASM----	12 573	77 584	80	1 944	6.02	65	78	82	42 808	29	27.21
1974 ASM----	11 880	67 032	82	1 973	5.69	57	68	64	46 347	25	28.42
1973 ASM----	10 784	64 258	83	1 961	5.05	63	78	89	22 612	47	13.74
1972 Census--	9 905	59 694	82	1 935	4.74	60	78	103	22 863	43	14.38
1971 ASM----	9 277	55 910	82	1 963	4.34	61	78	101	24 138	38	14.95
1970 ASM----	8 903	54 769	82	2 046	4.10	63	81	109	19 134	46	11.30
1969 ASM----	8 361	49 761	82	2 068	3.79	61	76	89	22 057	37	12.86
1968 ASM----	7 850	50 130	82	2 068	3.48	60	78	110	18 457	42	10.85
1967 Census--	7 596	48 923	80	2 047	3.40	61	78	108	18 576	40	11.23
1966 ASM----	7 330	(NA)	80	2 048	3.29	59	74	(NA)	19 203	38	11.63
1965 ASM----	7 036	(NA)	82	2 055	3.20	56	72	(NA)	19 889	35	11.71
1964 ASM----	6 945	43 090	81	2 077	3.15	61	79	108	13 709	50	8.06
1963 Census--	6 625	44 500	78	2 024	3.06	59	77	121	13 990	47	8.76
INDUSTRY 3315, STEEL WIRE AND RELATED PRODUCTS											
1977 Census--	13 787	(NA)	76	2 014	6.22	59	78	(NA)	29 188	47	18.87
1976 ASM----	12 814	20 231	73	2 033	5.77	57	78	33	26 936	47	18.01
1975 ASM----	11 900	20 403	76	1 995	5.29	59	78	33	24 390	48	16.08
1974 ASM----	11 393	15 831	80	1 985	4.92	57	76	26	27 322	41	17.10
1973 ASM----	10 113	15 617	80	2 041	4.46	53	75	33	21 552	46	13.19
1972 Census--	9 408	15 767	78	2 049	4.09	53	77	39	19 068	49	11.81
1971 ASM----	9 213	18 057	78	2 077	3.96	55	78	44	17 992	51	11.01
1970 ASM----	8 386	16 751	79	2 053	3.72	56	80	47	15 734	53	9.68
1969 ASM----	7 955	16 726	80	2 245	3.08	52	75	46	17 346	45	9.62
1968 ASM----	7 666	(S)	79	2 234	2.98	52	74	(S)	16 430	46	9.24
1967 Census--	7 135	(S)	79	2 032	3.12	55	78	(S)	14 124	50	8.74
1966 ASM----	7 119	(NA)	78	2 145	3.04	56	78	(NA)	14 003	50	8.26
1965 ASM----	6 908	(NA)	78	2 105	2.98	56	78	(NA)	13 845	49	8.34
1964 ASM----	6 647	12 778	78	2 034	2.96	57	79	43	12 828	51	8.05
1963 Census--	6 319	12 446	79	2 035	2.82	56	79	44	11 877	53	7.35
INDUSTRY 3316, COLD FINISHING OF STEEL SHAPES											
1977 Census--	17 208	(NA)	74	1 973	8.31	71	83	(NA)	41 131	41	27.84
1976 ASM----	15 323	33 930	74	1 945	7.33	73	85	26	36 242	42	24.98
1975 ASM----	13 621	36 211	72	1 871	6.69	75	88	34	25 503	53	18.74
1974 ASM----	13 071	30 428	76	1 994	6.17	66	77	25	13 026	100	8.55
1973 ASM----	11 976	30 454	78	2 060	5.46	70	82	31	28 293	42	17.55
1972 Census--	11 109	31 318	77	2 038	5.10	69	83	38	25 104	44	15.86
1971 ASM----	9 875	32 105	74	1 950	4.64	73	87	46	17 006	58	11.70
1970 ASM----	9 070	38 092	74	1 941	4.24	72	87	61	20 347	44	14.07
1969 ASM----	9 383	34 237	75	2 120	4.06	72	87	53	25 318	37	15.76
1968 ASM----	8 479	(S)	75	2 060	3.91	71	86	(S)	16 474	51	10.58
1967 Census--	7 943	(S)	76	2 000	3.65	74	89	(S)	13 800	57	9.03
1966 ASM----	7 982	(NA)	78	2 112	3.52	69	82	(NA)	18 035	44	10.91
1965 ASM----	7 775	(NA)	78	2 112	3.51	69	82	(NA)	17 856	43	10.82
1964 ASM----	7 626	18 866	76	2 174	3.34	73	86	33	15 690	48	9.40
1963 Census--	7 270	18 569	77	2 056	3.27	70	83	33	16 350	44	10.27

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3317, STEEL PIPE AND TUBES										
1977 Census--	16 160	(NA)	78	2 010	7.55	64	81	(NA)	35 521	45	22.58
1976 ASM----	14 705	26 580	76	1 946	6.98	62	78	30	32 963	44	22.00
1975 ASM----	13 400	24 109	78	1 979	6.28	61	76	27	35 439	37	22.93
1974 ASM----	12 340	21 318	78	2 073	5.60	59	73	24	35 989	34	21.97
1973 ASM----	11 414	19 875	80	2 106	5.08	61	79	31	24 658	46	14.59
1972 Census--	10 402	20 512	79	2 074	4.66	62	81	37	21 444	48	12.97
1971 ASM----	9 530	20 725	78	2 017	4.26	61	80	40	19 827	48	12.50
1970 ASM----	8 829	19 534	78	2 010	4.03	60	80	43	17 965	49	11.42
1969 ASM----	8 627	17 824	79	2 068	3.84	65	85	39	15 624	55	9.45
1968 ASM----	8 154	17 233	80	2 056	3.64	66	84	38	15 815	51	9.52
1967 Census--	7 700	15 874	80	2 068	3.44	65	83	37	15 262	50	9.13
1966 ASM----	7 488	(NA)	80	2 138	3.23	62	80	(NA)	16 019	46	9.31
1965 ASM----	7 093	(NA)	79	2 112	3.12	62	80	(NA)	15 376	46	9.17
1964 ASM----	7 034	15 944	79	2 133	3.04	64	82	41	12 529	56	7.34
1963 Census--	6 685	14 982	79	2 071	3.00	63	82	42	12 890	51	7.78

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3312, BLAST FURNACES AND STEEL MILLS													
United States	-	**504**	**250**	**441.9**	**8 725.7**	**350.2**	**668.7**	**6 653.0**	**15 331.9**	**26 715.0**	**41 998.2**	**2 143.1**	**469.1**	**10 304.7**
New England Division:														
Rhode Island	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	7	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	35	17	19.4	376.9	14.9	27.8	281.3	466.8	1 064.0	1 554.1	(D)	(NA)	(D)
New Jersey	E3	15	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	69	49	120.7	2 310.2	95.2	178.3	1 757.4	3 979.9	7 094.6	11 037.4	341.4	134.1	2 638.8
East North Central Division:														
Ohio	-	42	29	67.8	1 340.4	55.8	106.4	1 073.3	3 038.8	4 375.6	7 443.9	168.2	73.3	1 882.9
Indiana	-	18	11	63.3	1 282.3	49.8	96.4	971.6	1 938.9	4 231.1	6 203.0	385.6	62.6	1 280.0
Illinois	-	45	24	38.4	755.1	30.6	58.2	568.3	1 457.4	2 249.5	3 683.7	82.6	(NA)	(D)
Michigan	-	22	10	20.7	477.4	16.5	33.2	369.8	971.2	1 614.1	2 568.2	121.8	19.7	637.9
Wisconsin	-	8	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	7	3	1.1	20.8	0.9	1.7	15.7	34.4	98.7	136.6	(D)	(NA)	(D)
Iowa	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	6	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Maryland	-	4	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	10	3	0.9	13.6	0.8	1.5	12.1	34.1	47.4	80.6	(D)	(NA)	(D)
West Virginia	-	6	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	9	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	6	3	1.7	29.2	1.4	3.1	22.7	46.1	127.7	174.0	21.7	(NA)	(D)
Georgia	-	7	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	8	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	5	5	6.7	133.7	5.5	10.7	104.8	234.8	365.5	596.2	33.6	6.1	167.0
Tennessee	-	6	5	0.8	11.9	0.7	1.3	8.7	25.1	37.0	62.1	(D)	(NA)	(D)
Alabama	-	17	12	14.9	289.2	12.2	22.5	225.2	341.0	996.8	1 331.6	(D)	17.8	375.7
Mississippi	E2	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	6	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	31	12	13.4	239.6	10.5	20.8	174.6	522.2	694.0	1 201.6	(D)	(NA)	(D)
Mountain Division:														
Colorado	-	4	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Arizona	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	-	3	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	7	3	1.7	28.8	1.3	2.3	20.6	63.9	52.7	115.8	(D)	1.6	37.5
Oregon	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	52	16	13.5	279.8	10.3	19.0	198.8	342.8	927.9	1 241.4	(D)	15.4	247.0
Industry 3312-11, Fully Integrated														
United States	-	**35**	**35**	**240.8**	**4 888.3**	**190.0**	**360.9**	**3 712.7**	**8 334.8**	**12 919.2**	**21 311.6**	**1 256.4**	**260.5**	**5 757.5**
Middle Atlantic Division:														
New York	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	7	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	7	7	33.7	659.4	27.8	52.4	526.1	1 481.7	1 996.2	3 518.6	78.9	(NA)	(NA)
Indiana	-	4	4	58.7	1 190.6	46.5	90.1	907.2	1 823.1	3 664.4	5 499.8	380.9	(NA)	(NA)
Illinois	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Michigan	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Alabama	-	4	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Colorado	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 3312-12, Partially Integrated With Blast Furnaces													
United States	-	17	17	57.3	1 100.7	47.6	90.2	887.2	2 415.6	4 406.4	6 742.1	104.1	44.0	1 097.3
Middle Atlantic Division:														
New York	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	7	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	5	5	13.0	253.8	11.0	20.3	206.5	531.1	953.1	1 490.0	25.9	(NA)	(NA)
Illinois	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Michigan	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Industry 3312-13, Partially Integrated Without Blast Furnaces														
United States	(NA)	82	81	93.6	1 800.9	73.0	141.7	1 353.2	3 252.7	5 049.0	8 246.1	455.8	97.7	2 148.4
New England Division:														
Connecticut	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	15	15	31.5	600.0	24.1	45.3	435.9	905.4	1 887.1	2 778.0	95.8	(NA)	(NA)
East North Central Division:														
Ohio	-	5	5	16.9	352.8	13.7	27.5	282.3	918.5	986.4	1 881.7	54.4	(NA)	(NA)
Indiana	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	9	9	12.4	253.8	9.9	18.7	195.5	420.8	490.0	922.4	24.1	(NA)	(NA)
Michigan	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Minnesota	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Iowa	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Nebraska	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maryland	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Carolina	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	3	3	1.8	37.9	1.5	3.1	30.4	66.5	79.6	142.6	3.9	(NA)	(NA)
Tennessee	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Oklahoma	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	7	7	5.1	80.5	4.1	8.4	59.8	113.8	313.9	427.2	119.7	(NA)	(NA)
Pacific Division:														
Washington	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oregon	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	5	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Industry 3312-14, Nonintegrated														
United States	(NA)	370	116	50.2	935.8	39.6	75.8	710.1	1 328.9	4 340.3	5 698.5	326.9	66.9	1 301.5
New England Division:														
Rhode Island	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	30	12	4.3	85.5	3.4	6.8	66.0	153.2	317.3	466.0	38.6	(NA)	(NA)
New Jersey	E5	14	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	40	20	22.3	424.1	17.7	33.7	323.5	588.4	1 321.8	1 921.5	118.2	23.1	369.5
East North Central Division:														
Ohio	-	25	12	4.2	74.5	3.3	6.1	58.4	107.6	439.9	553.6	9.0	6.8	134.4
Indiana	-	11	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	32	11	4.5	81.3	3.4	6.7	59.8	153.9	560.4	708.7	9.0	(NA)	(NA)
Michigan	-	17	5	1.1	19.2	0.8	1.6	13.7	30.2	114.6	136.6	(D)	(NA)	(NA)
Wisconsin	-	8	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Minnesota	-	6	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	5	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	8	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	7	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 3312-14, Nonintegrated—Con.													
East South Central Division:													
Kentucky	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	-	11	6	1.6	26.2	1.4	2.6	21.5	74.7	180.0	263.4	12.8	4.3	69.0
West South Central Division:														
Arkansas	-	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E8	22	3	0.2	3.3	0.2	0.3	2.6	6.5	8.4	14.6	2.3	(NA)	(NA)
Mountain Division:														
Arizona	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	46	10	3.4	67.9	2.5	4.8	49.7	-18.9	535.1	510.7	27.1	(NA)	(NA)
INDUSTRY 3313, ELECTROMETALLURGICAL PRODUCTS														
United States	-	**42**	**31**	**8.9**	**139.2**	**7.0**	**14.3**	**103.9**	**274.6**	**687.0**	**930.6**	**53.2**	**9.5**	**217.2**
Middle Atlantic Division:														
New York	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	9	8	3.4	55.2	2.7	5.3	41.0	106.5	250.9	355.8	22.2	(NA)	(D)
West North Central Division:														
Iowa	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
West Virginia	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	3	3	0.7	9.6	0.6	1.2	7.5	19.2	55.0	65.2	(D)	0.7	12.8
Alabama	-	5	5	0.7	11.8	0.6	1.3	8.4	18.2	58.3	74.2	0.9	(NA)	(D)
West South Central Division:														
Texas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Oregon	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3315, STEEL WIRE AND RELATED PRODUCTS														
United States	-	**335**	**223**	**31.7**	**436.6**	**24.3**	**49.0**	**304.9**	**924.4**	**1 341.2**	**2 258.6**	**79.4**	**30.6**	**583.5**
New England Division:														
New Hampshire	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	25	19	2.0	27.5	1.6	3.1	20.1	54.1	56.6	110.3	2.0	2.1	36.5
Connecticut	-	15	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.4	30.3
Middle Atlantic Division:														
New York	-	21	9	0.9	10.4	0.7	1.3	8.0	19.9	40.0	58.9	2.8	0.4	6.9
New Jersey	E1	17	7	0.7	10.5	0.5	1.0	6.8	16.9	21.5	36.7	0.5	1.1	25.9
Pennsylvania	-	25	16	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	4.4	89.9
East North Central Division:														
Ohio	-	25	20	3.6	52.8	2.7	5.6	37.9	109.4	163.1	266.8	9.8	2.7	60.2
Indiana	-	12	7	1.4	20.3	1.1	2.2	14.6	44.5	56.3	100.0	2.8	1.0	20.7
Illinois	-	33	21	3.5	52.3	2.7	5.2	35.9	125.2	115.2	238.6	5.3	3.9	69.4
Michigan	-	9	8	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	32.2
Wisconsin	-	6	5	0.9	12.0	0.7	1.4	8.6	28.3	22.9	51.6	(D)	0.8	15.7
West North Central Division:														
Minnesota	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	9	8	1.3	17.6	1.0	1.9	12.0	42.4	51.0	92.6	3.7	(NA)	(D)
South Atlantic Division:														
Delaware	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Maryland	-	7	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Carolina	-	5	3	0.4	4.3	0.3	0.6	3.0	9.4	29.8	38.6	0.9	(NA)	(NA)
Georgia	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	11	11	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	4	3	0.7	8.0	0.6	1.2	5.9	11.1	17.9	28.4	(D)	(NA)	(D)
Tennessee	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	6.1
Alabama	-	7	5	1.0	10.2	0.8	1.4	7.2	13.2	35.0	47.9	0.6	1.1	7.9
West South Central Division:														
Oklahoma	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	22	15	1.2	12.7	0.9	1.8	8.5	23.9	63.5	86.8	3.0	(NA)	(D)
Pacific Division:														
California	-	33	19	1.7	27.1	1.3	2.9	17.6	55.8	131.4	189.8	(D)	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3316, COLD FINISHING OF STEEL SHAPES														
United States	-	**155**	**94**	**19.4**	**334.6**	**14.6**	**28.7**	**238.8**	**799.6**	**1 936.8**	**2 713.2**	**49.6**	**20.1**	**504.6**
New England Division:														
Massachusetts	-	6	3	0.5	7.0	0.3	0.6	4.0	19.3	33.9	52.8	(D)	(NA)	(D)
Rhode Island	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	10	9	2.1	39.1	1.5	3.0	25.2	105.9	135.7	240.4	7.1	(NA)	(D)
Middle Atlantic Division:														
New York	-	6	4	0.7	10.5	0.6	1.0	7.3	28.6	50.4	79.9	(D)	(NA)	(D)
New Jersey	-	5	4	0.5	8.2	0.3	0.7	5.7	16.8	30.8	47.7	(D)	(NA)	(D)
Pennsylvania	-	21	16	5.2	87.9	4.1	8.0	69.1	181.5	324.9	497.6	14.0	5.5	149.2
East North Central Division:														
Ohio	-	20	16	4.2	75.9	3.0	5.9	52.9	224.4	522.4	739.4	(D)	3.9	105.7
Indiana	-	5	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	15	8	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	-	22	11	1.8	33.8	1.4	2.9	25.1	33.1	342.1	378.0	5.4	3.0	64.1
South Atlantic Division:														
Maryland	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Mississippi	-	4	3	0.2	2.4	0.1	0.3	1.2	5.3	10.8	15.7	(D)	(NA)	(NA)
Pacific Division:														
California	-	14	6	0.5	7.6	0.4	0.8	5.5	29.7	54.7	84.1	0.5	(NA)	(D)
INDUSTRY 3317, STEEL PIPE AND TUBES														
United States	-	**180**	**142**	**27.8**	**449.4**	**21.8**	**43.7**	**330.6**	**987.9**	**1 731.9**	**2 681.4**	**117.5**	**23.6**	**506.1**
Middle Atlantic Division:														
New York	-	6	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	9	8	1.3	19.2	1.0	1.9	12.6	38.7	77.2	113.4	1.4	(NA)	(D)
Pennsylvania	-	25	19	5.4	88.2	4.2	8.3	67.6	208.2	350.1	541.6	21.5	(NA)	(D)
East North Central Division:														
Ohio	-	22	20	5.4	88.9	4.3	8.7	68.7	184.9	302.3	483.9	(D)	(NA)	(D)
Indiana	-	6	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	17	14	1.8	31.4	1.3	2.8	20.4	97.5	179.8	273.0	19.5	1.3	41.9
Michigan	-	19	13	2.1	36.1	1.6	3.3	26.3	78.0	92.9	168.7	(D)	2.2	42.0
Wisconsin	-	4	4	1.5	24.6	1.2	2.6	19.4	47.2	85.3	132.9	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
West Virginia	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	4	4	0.4	4.3	0.4	0.8	3.2	11.4	26.3	37.9	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	E1	5	4	0.4	5.0	0.3	0.6	2.7	6.4	12.5	19.4	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Louisiana	-	3	2	0.3	4.1	0.2	0.4	2.5	8.0	30.5	39.1	(D)	(NA)	(D)
Oklahoma	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	13	9	1.2	17.4	0.9	1.7	11.6	35.9	91.9	126.2	2.1	(NA)	(D)
Mountain Division:														
Colorado	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	E6	16	12	2.1	38.8	1.6	3.4	27.8	84.2	142.0	225.9	3.8	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Blast furnaces and steel mills (SIC 3312)					Electrometallurgical products (SIC 3313)	Steel wire and related products (SIC 3315)	Cold finishing of steel shapes (SIC 3316)	Steel pipe and tubes (SIC 3317)
		Total	Fully integrated (SIC 3312-11)	Partially integrated with blast furnaces (SIC 3312-12)	Partially integrated without blast furnaces (SIC 3312-13)	Nonintegrated (SIC 3312-14)				
Primary product specialization ratio[1]	percent	(NA)	(NA)	(NA)	(NA)	(NA)	(D)	95	95	95
Coverage ratio[2]	do	(NA)	(NA)	(NA)	(NA)	(NA)	90	47	25	44
All establishments	number	504	35	17	82	370	42	335	155	180
With 1 to 19 employees	do	254	–	–	–	254	11	112	61	38
With 20 to 99 employees	do	45	–	–	1	44	6	135	45	68
With 100 employees or more	do	205	35	17	81	72	25	88	49	74
All employees, average for year	1,000	441.9	240.8	57.3	93.6	50.2	8.9	31.7	19.4	27.8
Payroll for year, all employees	mil. dol.	8 725.7	4 888.3	1 100.7	1 800.9	935.8	139.2	436.6	334.6	449.4
Production workers:										
Average for year	1,000	350.2	190.0	47.6	73.0	39.6	7.0	24.3	14.6	21.8
March	do	346.6	188.5	46.8	71.8	39.6	7.2	23.8	14.1	21.0
May	do	360.9	197.2	48.9	74.6	40.2	7.3	24.4	14.7	21.4
August	do	354.0	191.7	48.1	74.1	40.1	7.1	24.5	14.9	22.5
November	do	339.4	182.7	46.5	71.6	38.6	6.4	24.5	14.5	22.0
Hours	millions	668.7	360.9	90.2	141.7	75.8	14.3	49.0	28.7	43.7
January to March	do	162.3	87.5	21.6	34.5	18.8	3.6	11.9	6.9	10.4
April to June	do	177.7	96.2	24.1	37.3	20.1	3.8	12.7	7.6	11.2
July to September	do	167.4	91.0	22.7	35.0	18.8	3.7	12.0	7.1	11.1
October to December	do	161.3	86.3	21.9	34.9	18.2	3.3	12.3	7.1	11.0
Wages	mil. dol.	6 653.0	3 712.7	877.2	1 353.2	710.1	103.9	304.9	238.8	330.6
Cost of materials, etc.	do	26 715.0	12 919.2	4 406.4	5 049.0	4 340.3	687.0	1 341.2	1 936.8	1 731.9
Materials, parts, containers, etc., consumed	do	21 841.0	10 918.9	2 796.1	4 242.7	3 883.3	475.4	1 200.1	1 853.3	1 601.0
Resales	do	162.7	33.3	25.6	32.3	71.5	(D)	(D)	7.6	46.0
Fuels consumed	do	3 058.2	1 299.4	1 158.7	394.6	205.4	38.4	22.0	36.9	35.9
Purchased electric energy	do	1 105.2	464.1	176.2	347.9	117.0	132.9	29.9	27.3	26.4
Contract work	do	547.9	203.5	249.7	31.5	63.1	(D)	(D)	11.7	22.6
Value of shipments, including resales	do	41 998.2	21 311.6	6 742.1	8 246.1	5 698.5	930.6	2 258.6	2 713.2	2 681.4
Value of resales	do	300.1	138.8	45.4	40.6	75.3	(D)	(D)	7.9	58.7
Value added by manufacture	do	15 331.9	8 334.8	2 415.6	3 252.7	1 328.9	274.6	924.4	799.6	987.9
Manufacturers' inventories:										
Beginning of year	do	8 620.6	4 804.2	1 074.9	1 588.6	1 152.9	367.3	409.7	383.3	546.9
Finished products	do	1 832.9	942.8	188.4	392.0	309.7	172.9	153.4	76.8	142.3
Work in process	do	2 516.3	1 350.8	238.8	542.7	384.0	25.6	76.6	144.1	138.8
Materials, supplies, fuel, etc.	do	4 271.4	2 510.6	647.7	653.9	459.2	168.8	179.6	162.5	265.8
End of year	do	8 471.6	4 602.2	1 091.4	1 631.2	1 146.8	403.8	422.8	436.6	571.6
Finished products	do	1 974.1	1 015.8	218.0	436.8	303.5	193.1	157.2	87.0	151.1
Work in process	do	2 423.8	1 220.2	289.0	553.6	360.9	36.3	79.7	157.1	168.4
Materials, supplies, fuel, etc.	do	4 073.8	2 366.2	584.3	640.9	482.4	174.4	185.8	192.5	252.0
Capital expenditures for plant and equipment	do	2 227.5	1 284.1	105.0	462.6	375.8	53.5	87.5	50.7	120.1
New capital expenditures	do	2 143.1	1 256.4	104.1	455.8	326.9	53.2	79.4	49.6	117.5
New buildings and other structures	do	225.6	164.7	3.1	36.3	21.4	4.2	14.3	5.6	19.6
New machinery and equipment	do	1 917.6	1 091.6	100.9	419.5	305.5	49.1	65.1	43.9	97.9
Used capital expenditures	do	84.4	27.8	0.9	6.8	48.9	0.3	8.1	1.1	2.6

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Blast furnaces and steel mills (SIC 3312)		Electrometallurgical products (SIC 3313)		Steel wire and related products (SIC 3315)		Cold finishing of steel shapes (SIC 3316)		Steel pipe and tubes (SIC 3317)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	89.2	1	2.4	1	3.6	14	2.1	4	3.0	24
Response coverage ratio[2] (percent)	64	(X)	51	(X)	54	(X)	67	(X)	55	(X)
Machinery	568.3	1	7.7	1	21.6	8	22.3	2	17.0	22
Response coverage ratio[2] (percent)	59	(X)	57	(X)	47	(X)	10	(X)	60	(X)
Cost of purchased communication services	30.3	2	2.2	1	4.1	8	2.8	4	4.7	18
Response coverage ratio[2] (percent)	82	(X)	65	(X)	51	(X)	74	(X)	71	(X)
Rental payments	117.7	1	2.1	1	15.5	6	(8.2)	16	8.8	9
Buildings and other structures	8.7	6	-	(X)	7.4	11	(3.1)	41	(4.6)	17
Machinery and equipment	108.9	1	2.1	1	8.1	7	5.1	2	4.1	5
Supplemental labor costs	2,497.5	1	41.6	1	100.2	2	86.3	1	112.2	2
Legal costs	616.1	1	12.4	1	39.1	2	27.0	1	37.5	1
Voluntary costs	1,881.4	1	29.1	2	61.1	2	59.3	1	74.7	2
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	5,147.8	1	157.4	1	178.9	5	154.4	2	168.3	8
New capital expenditures	223.6	2	4.1	5	13.6	12	5.5	4	21.0	5
Used capital expenditures	11.0	1	-	(X)	0.6	9	-	(X)	-	(X)
Retirements	188.5	1	1.9	2	3.5	10	2.3	2	(1.0)	29
End of year	5,193.9	1	159.6	1	189.5	5	157.7	2	188.4	7
Machinery and equipment:										
Beginning of year	27,181.8	1	645.2	1	479.4	3	573.2	1	558.4	2
New capital expenditures	1,889.6	1	48.9	2	60.2	6	40.9	2	104.5	3
Automobiles, trucks, etc., for highway use[3]	11.6	(A)	(D)	(A)	(D)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	26.5	75	(D)	(A)	(D)	(A)	(D)	(A)	(D)	(A)
All other[3]	1,593.8	1	41.1	49	48.0	42	37.4	53	(80.9)	26
New machinery and equipment, n.s.k.[4]	257.8	8	7.3	(A)	11.0	(A)	2.0	(A)	22.4	89
Used capital expenditures	74.1	2	0.3	1	(11.0)	27	0.4	1	(2.8)	41
Retirements	975.0	1	18.8	1	15.5	5	18.7	2	10.0	9
End of year	28,170.6	1	675.6	1	535.1	3	595.8	1	655.8	2
Total gross value of depreciable assets:										
Beginning of year	32,329.7	1	802.6	1	658.3	3	727.6	1	726.8	2
New capital expenditures	2,113.3	1	53.0	2	73.8	6	46.4	2	125.5	3
Used capital expenditures	85.1	2	0.3	1	(11.6)	26	0.4	1	(2.9)	41
Retirements	1,163.5	1	20.7	1	19.0	5	21.0	1	11.0	10
End of year	33,364.6	1	835.2	1	724.7	3	753.5	1	844.2	2
Depreciation charges during 1977	1,156.9	1	40.8	1	42.0	4	35.2	1	36.8	5
Buildings and other structures	126.8	1	4.0	1	7.0	5	4.5	2	5.1	7
Machinery and equipment	1,030.1	1	36.8	1	35.0	4	30.7	1	31.7	5

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3312, BLAST FURNACES AND STEEL MILLS												
Total	-	**504**	**441.9**	**8 725.7**	**350.2**	**668.7**	**6 653.0**	**15 331.9**	**26 715.0**	**41 998.2**	**2 143.1**	**8 471.6**
Establishments with an average of—												
1 to 4 employees	E8	148	0.2	4.0	0.2	0.4	3.0	(S)	12.1	18.9	(S)	4.2
5 to 9 employees	E7	60	0.4	6.7	0.3	0.6	5.0	10.6	19.0	29.5	1.5	6.5
10 to 19 employees	E7	46	0.6	11.2	0.5	1.0	8.3	19.4	36.3	55.7	(13.1)	12.3
20 to 49 employees	E3	35	1.0	16.9	0.8	1.6	12.3	47.7	67.0	111.8	(D)	20.2
50 to 99 employees	-	10	0.7	11.3	0.6	1.1	8.1	41.8	60.6	107.6	(D)	29.1
100 to 249 employees	-	43	7.3	116.3	5.8	11.5	86.8	235.6	536.2	790.0	80.8	131.7
250 to 499 employees	-	44	15.8	268.5	12.7	24.9	205.3	480.0	988.1	1 468.3	107.8	321.9
500 to 999 employees	-	30	20.7	393.5	16.2	32.4	302.3	739.9	1 388.6	2 112.7	84.9	437.4
1,000 to 2,499 employees	-	32	48.4	921.4	37.5	70.8	695.8	1 212.6	3 089.9	4 276.6	193.4	755.4
2,500 employees or more	-	56	346.8	6 976.0	275.6	524.6	5 326.2	12 562.8	20 517.1	33 027.1	1 658.9	6 752.9
Covered by administrative records[2]	E0	205	1.2	21.9	1.0	1.9	16.5	35.4	64.5	99.9	5.4	22.5
Industry 3312-11, Fully Integrated												
Total	-	**35**	**240.8**	**4 888.3**	**190.0**	**360.9**	**3 712.7**	**8 334.8**	**12 919.2**	**21 311.6**	**1 256.4**	**4 602.2**
Establishments with an average of—												
250 to 499 employees	-	2	(7.6)	(137.5)	(6.0)	(10.6)	(106.0)	(196.9)	(197.4)	(394.4)	(1 256.4)	(63.9)
1,000 to 2,499 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	29	233.2	4 750.9	184.0	350.3	3 606.6	8 137.9	12 721.8	20 917.2	(D)	4 538.3
Industry 3312-12, Partially Integrated With Blast Furnaces												
Total	-	**17**	**57.3**	**1 100.7**	**47.6**	**90.2**	**877.2**	**2 415.6**	**4 406.4**	**6 742.1**	**104.1**	**1 091.4**
Establishments with an average of—												
250 to 499 employees	-	1	(10.0)	(188.8)	(8.4)	(15.2)	(152.5)	(271.4)	(368.4)	(647.0)	(104.1)	(98.2)
1,000 to 2,499 employees	-	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	11	47.3	912.0	39.2	75.0	724.6	2 144.1	4 038.0	6 095.1	(D)	993.2
Industry 3312-13, Partially Integrated Without Blast Furnaces												
Total	-	**82**	**93.6**	**1 800.9**	**73.0**	**141.7**	**1 353.2**	**3 252.7**	**5 049.0**	**8 246.1**	**455.8**	**1 631.2**
Establishments with an average of—												
20 to 49 employees	-	1	(2.3)	(33.7)	(1.9)	(3.8)	(24.3)	(61.1)	(111.0)	(171.9)	(47.3)	(34.4)
100 to 249 employees	-	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	19	6.4	106.6	5.1	10.8	82.2	212.1	346.9	567.5	(D)	122.5
500 to 999 employees	-	19	12.3	235.1	9.8	19.4	182.5	421.7	703.9	1 109.2	27.6	215.9
1,000 to 2,499 employees	-	16	22.1	424.5	16.8	33.0	315.3	643.5	1 137.9	1 757.9	154.9	349.6
2,500 employees or more	-	13	50.3	1 001.0	39.4	74.8	748.8	1 914.3	2 749.3	4 639.6	226.0	908.8
Industry 3312-14, Nonintegrated												
Total	-	**370**	**50.2**	**935.8**	**39.6**	**75.8**	**710.1**	**1 328.9**	**4 340.3**	**5 698.5**	**326.9**	**1 146.8**
Establishments with an average of—												
1 to 4 employees	E8	148	0.2	4.0	0.2	0.4	3.0	(S)	12.1	18.9	(S)	4.2
5 to 9 employees	E7	60	0.4	6.7	0.3	0.6	5.0	10.6	19.0	29.5	1.5	6.5
10 to 19 employees	E7	46	0.6	11.2	0.5	1.0	8.3	19.4	36.3	55.7	3.9	12.3
20 to 49 employees	E4	34	1.0	16.2	0.8	1.5	11.8	46.0	65.8	108.9	7.6	19.6
50 to 99 employees	-	10	0.7	11.3	0.6	1.1	8.1	41.8	60.6	107.6	1.6	29.1
100 to 249 employees	-	29	5.0	83.3	3.9	7.8	63.0	176.2	426.4	621.0	73.3	98.0
250 to 499 employees	-	22	8.3	141.8	6.7	12.5	107.0	240.5	640.8	874.8	67.8	196.0
500 to 999 employees	-	11	8.4	158.4	6.4	13.1	119.7	318.1	684.8	1 003.5	57.3	221.4
1,000 to 2,499 employees	-	7	9.7	190.8	7.3	13.6	138.0	128.3	1 386.4	1 503.4	(111.2)	247.1
2,500 employees or more	-	3	15.9	312.2	12.9	24.5	246.1	366.4	1 008.0	1 375.2	(D)	312.6
Covered by administrative records[2]	E0	205	1.2	21.9	1.0	1.9	16.5	35.4	64.5	99.9	5.4	22.5
INDUSTRY 3313, ELECTROMETALLURGICAL PRODUCTS												
Total	-	**42**	**8.9**	**139.2**	**7.0**	**14.3**	**103.9**	**274.6**	**687.0**	**930.6**	**53.2**	**403.8**
Establishments with an average of—												
1 to 4 employees	E4	6	(Z)	0.2	(Z)	(Z)	0.1	1.3	0.7	2.0	(0.3)	0.5
5 to 9 employees	E4	4	(0.1)	(1.2)	(0.1)	(0.1)	(1.0)	(2.0)	(4.5)	(6.5)	(D)	(1.4)
10 to 19 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	5	0.4	6.0	0.3	0.6	3.8	18.0	27.9	43.8	8.8	19.4
100 to 249 employees	-	17	2.8	45.2	2.2	4.4	32.9	93.9	275.2	363.2	(25.1)	165.1
250 to 499 employees	-	4	1.5	22.9	1.2	2.5	18.1	36.4	109.4	128.1	(D)	69.1
500 to 999 employees	-	4	4.0	63.7	3.2	6.6	48.0	123.0	269.2	387.1	18.9	148.5
Covered by administrative records[2]	E0	9	(Z)	0.6	(Z)	0.1	0.4	1.1	2.7	3.9	0.3	1.5
INDUSTRY 3315, STEEL WIRE AND RELATED PRODUCTS												
Total	-	**335**	**31.7**	**436.6**	**24.3**	**49.0**	**304.9**	**924.4**	**1 341.2**	**2 258.6**	**79.4**	**422.8**
Establishments with an average of—												
1 to 4 employees	E4	33	0.1	0.7	0.1	0.1	0.5	1.6	4.5	6.0	0.1	0.6
5 to 9 employees	E7	28	0.2	2.4	0.1	0.3	1.6	4.7	7.2	12.1	0.5	2.3
10 to 19 employees	E4	51	0.7	7.9	0.5	1.0	5.0	15.1	32.6	49.2	1.0	10.4
20 to 49 employees	-	73	2.5	30.1	1.9	4.0	20.4	75.8	129.8	204.8	15.6	31.9
50 to 99 employees	-	62	4.5	56.2	3.6	7.5	40.7	146.8	307.1	453.1	13.2	84.7
100 to 249 employees	-	60	9.3	120.3	7.4	14.8	87.4	257.4	436.7	692.6	17.1	128.7
250 to 499 employees	-	18	6.6	96.4	5.0	10.0	66.0	200.3	218.6	413.9	15.1	76.5
500 to 999 employees	-	9	(7.7)	(122.7)	(5.7)	(11.4)	(83.4)	(222.7)	(204.7)	(427.1)	(16.7)	(87.6)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	72	0.5	6.7	0.4	0.8	4.5	14.4	19.6	34.0	0.9	7.1

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3316, COLD FINISHING OF STEEL SHAPES												
Total	-	155	19.4	334.6	14.6	28.7	238.8	799.6	1 936.8	2 713.2	49.6	436.6
Establishments with an average of—												
1 to 4 employees	E8	29	(Z)	0.7	(Z)	0.1	0.5	1.4	3.8	5.2	0.1	0.9
5 to 9 employees	E7	11	0.1	1.0	0.1	0.1	0.7	2.3	5.7	8.0	0.1	1.3
10 to 19 employees	E2	20	0.3	4.2	0.2	0.4	2.7	12.6	27.2	39.5	0.4	7.9
20 to 49 employees	-	16	0.6	9.1	0.4	0.8	5.4	31.9	89.0	119.3	3.3	27.4
50 to 99 employees	-	29	2.0	31.4	1.5	3.1	20.4	96.3	271.3	361.0	4.1	66.2
100 to 249 employees	-	24	4.1	66.4	3.0	5.9	45.5	168.0	372.5	538.8	12.8	94.1
250 to 499 employees	-	18	6.0	105.0	4.4	8.6	74.2	269.8	642.8	900.3	12.9	136.5
500 to 999 employees	-	7	(6.4)	(116.8)	(4.9)	(9.7)	(89.4)	(217.3)	(524.5)	(741.1)	(15.8)	(102.4)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	39	0.2	2.9	0.2	0.3	2.0	5.2	15.2	20.4	0.3	3.5
INDUSTRY 3317, STEEL PIPE AND TUBES												
Total	-	180	27.8	449.4	21.8	43.7	330.6	987.9	1 731.9	2 681.4	117.5	571.6
Establishments with an average of—												
1 to 4 employees	E8	20	(Z)	0.5	(Z)	0.1	0.3	0.8	1.6	2.7	0.1	0.6
5 to 9 employees	E8	8	0.1	0.8	(Z)	0.1	0.6	1.4	1.9	3.2	0.1	0.6
10 to 19 employees	E6	10	0.1	1.8	0.1	0.2	1.2	3.6	5.5	9.1	0.2	1.8
20 to 49 employees	E1	35	1.1	15.2	0.9	1.9	10.8	43.5	75.8	117.8	3.4	25.9
50 to 99 employees	-	33	2.4	34.6	1.9	3.6	23.1	81.0	164.6	244.0	20.1	56.6
100 to 249 employees	-	41	7.1	99.9	5.5	11.0	67.9	239.3	407.3	644.4	10.9	138.8
250 to 499 employees	-	20	6.8	106.1	5.2	10.5	75.9	233.8	433.2	663.6	25.6	136.7
500 to 999 employees	-	11	(10.2)	(190.7)	(8.1)	(16.5)	(150.8)	(384.4)	(642.0)	(996.6)	(57.2)	(210.5)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	27	0.2	3.1	0.2	0.3	2.2	6.8	10.2	17.1	0.5	3.6

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3312	**Blast furnaces and steel mills:**										
	Entire industry	504	441.9	8 725.7	350.2	668.7	6 653.0	15 331.9	26 715.0	41 998.2	2 143.1
	Establishments with 75 percent specialization or more	455	408.6	8 096.5	324.1	620.7	6 183.1	14 103.4	25 957.3	39 981.7	2 016.8
33121	Coke oven products and blast furnace products:										
	Establishments with this product class primary	33	16.7	300.8	14.0	26.5	240.4	464.8	1 925.2	2 393.3	152.5
	Establishments with 75 percent specialization or more in class	32	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33122	Steel ingot and semifinished shapes and forms:										
	Establishments with this product class primary	22	28.7	541.1	23.0	43.5	414.0	1 296.9	2 109.6	3 387.9	128.1
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33123	Hot rolled sheet and strip tin mill products:										
	Establishments with this product class primary	33	177.5	3 606.1	140.9	269.2	2 740.1	5 906.5	12 554.3	18 473.7	1 054.4
	Establishments with 75 percent specialization or more in class	8	13.6	272.5	10.8	20.9	201.6	728.4	1 262.5	1 975.8	49.4
33124	Hot rolled bars, plates, and structural shapes:										
	Establishments with this product class primary	87	110.3	2 100.2	85.6	161.9	1 575.4	3 571.5	4 952.4	8 436.9	455.5
	Establishments with 75 percent specialization or more in class	56	31.6	587.7	24.1	47.4	427.0	845.4	1 505.9	2 332.3	214.3
33125	Steel wire:										
	Establishments with this product class primary	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33126	Steel pipe and tube:										
	Establishments with this product class primary	11	34.3	656.8	27.8	54.9	516.8	1 440.1	1 719.0	3 159.2	144.9
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33127	Cold rolled steel sheet and strip:										
	Establishments with this product class primary	11	47.3	1 018.8	37.6	72.8	789.3	1 917.4	2 795.7	4 745.1	157.8
	Establishments with 75 percent specialization or more in class	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33128	Cold finished steel bars and bar shapes:										
	Establishments with this product class primary	3	2.3	47.6	1.7	3.5	33.4	103.1	147.6	246.1	4.1
3312A	Seamless rolled ring forgings, ferrous:										
	Establishments with this product class primary	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3312B	Open die or smith forgings, hammer or press:										
	Establishments with this product class primary	6	2.0	33.6	1.6	3.0	23.8	65.3	53.0	121.8	6.1
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3312C	Other steel mill products, except wire products:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3313	**Electrometallurgical products:**										
	Entire industry	42	8.9	139.2	7.0	14.3	103.9	274.6	687.0	930.6	53.2
	Establishments with 75 percent specialization or more	41	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33131	Ferromanganese:										
	Establishments with this product class primary	7	2.1	29.7	1.7	3.6	22.2	48.1	129.5	167.4	8.8
	Establishments with 75 percent specialization or more in class	6	0.9	11.0	0.8	1.5	9.0	19.4	49.4	61.5	2.2
33132	Ferrochromium:										
	Establishments with this product class primary	6	1.3	21.9	1.1	2.2	16.0	40.8	149.3	188.0	11.1
	Establishments with 75 percent specialization or more in class	3	0.6	9.5	0.5	1.0	7.1	18.0	68.5	90.5	9.5
33133	Ferrosilicon:										
	Establishments with this product class primary	12	4.0	64.3	3.2	6.4	49.2	134.6	268.8	399.7	20.7
	Establishments with 75 percent specialization or more in class	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33134	Other ferroalloys produced in electric furnaces:										
	Establishments with this product class primary	8	1.4	22.7	1.0	2.1	16.1	50.0	136.7	171.6	12.3
	Establishments with 75 percent specialization or more in class	8	1.4	22.7	1.0	2.1	16.1	50.0	136.7	171.6	12.3
3315	**Steel wire and related products:**										
	Entire industry	335	31.7	436.6	24.3	49.0	304.9	924.4	1 341.2	2 258.6	79.4
	Establishments with 75 percent specialization or more	314	28.0	379.8	21.6	43.6	266.5	811.0	1 259.5	2 070.2	75.4
33151	Noninsulated ferrous wire rope, cable, and strand:										
	Establishments with this product class primary	33	6.3	90.5	4.8	9.7	65.1	171.0	197.6	365.9	22.7
	Establishments with 75 percent specialization or more in class	29	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33152	Steel nails and spikes:										
	Establishments with this product class primary	20	4.2	59.1	3.3	6.7	41.4	133.0	120.3	246.9	4.8
	Establishments with 75 percent specialization or more in class	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33155	Steel wire:										
	Establishments with this product class primary	73	8.0	121.3	6.1	13.1	85.3	265.2	534.8	793.8	28.9
	Establishments with 75 percent specialization or more in class	57	6.1	92.5	4.7	9.8	65.4	202.7	378.4	578.8	22.3
33156	Fencing and fence gates:										
	Establishments with this product class primary	23	2.2	26.7	1.6	3.0	16.5	62.7	114.5	179.6	3.9
	Establishments with 75 percent specialization or more in class	21	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33157	Ferrous wire cloth and other woven wire products:										
	Establishments with this product class primary	8	0.9	11.6	0.8	1.7	8.9	24.2	38.2	62.3	1.7
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33159	Other fabricated ferrous wire products:										
	Establishments with this product class primary	68	7.7	92.4	5.9	11.6	63.5	208.2	279.3	494.5	13.2
	Establishments with 75 percent specialization or more in class	59	7.0	85.2	5.3	10.4	58.6	189.1	248.5	444.6	11.5

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3316	**Cold finishing of steel shapes:**										
	Entire industry	155	19.4	334.6	14.6	28.7	238.8	799.6	1 936.8	2 713.2	49.6
	Establishments with 75 percent specialization or more	144	17.1	297.3	12.7	25.1	212.0	735.0	1 808.2	2 519.0	46.6
33167	Cold rolled steel sheet and strip:										
	Establishments with this product class primary	50	11.9	212.7	9.1	18.1	157.9	502.1	1 226.8	1 712.4	35.8
	Establishments with 75 percent specialization or more in class	47	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33168	Cold finished bars and bar shapes:										
	Establishments with this product class primary	53	6.8	108.4	4.9	9.6	71.7	274.6	686.3	954.6	13.0
	Establishments with 75 percent specialization or more in class	49	5.8	93.8	4.1	8.2	61.6	251.9	629.0	873.8	12.0
3317	**Steel pipe and tubes:**										
	Entire industry	180	27.8	449.4	21.8	43.7	330.6	987.9	1 731.9	2 681.4	117.5
	Establishments with 75 percent specialization or more	166	25.1	407.4	19.6	39.5	297.7	892.1	1 542.9	2 398.9	(D)
33176	Steel pipe and tubes:										
	Establishments with this product class primary	143	27.2	440.9	21.2	42.8	324.3	972.0	1 703.8	2 637.0	116.7
	Establishments with 75 percent specialization or more in class	133	24.7	402.6	19.3	39.0	294.4	880.8	1 527.0	2 371.7	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3312	Blast furnaces and steel mills....1977..	41,998.2	39,288.2	1,365.2	1,344.8	(1)	46,065.7	39,288.7	6,777.0	(1)
	1972..	23,946.7	21,870.5	1,272.8	803.4	(1)	25,806.7	21,870.5	3,936.2	(1)
	1967..	19,620.6	17,989.5	1,001.3	629.8	(1)	20,887.4	17,989.1	2,898.3	(1)
3313	Electrometallurgical products....1977..	930.6	850.2	[2]80.5	(2)	95-100	944.1	850.2	93.9	90
	1972..	550.1	517.7	[2]32.4	(2)	90-100	594.4	517.7	76.7	87
	1967..	467.9	398.2	[2]69.7	(2)	85-90	483.0	398.2	84.8	82
3315	Steel wire and related products....1977..	2,258.6	2,036.7	99.1	122.9	95	4,369.2	2,036.7	2,332.5	47
	1972..	1,227.2	1,095.3	52.9	79.5	94	2,599.8	1,095.3	1,504.5	42
	1967..	845.2	738.0	80.2	27.0	90	2,004.4	738.0	1,266.4	37
3316	Cold finishing of steel shapes....1977..	2,713.2	2,523.0	143.2	47.1	95	9,938.6	2,523.0	7,415.6	25
	1972..	1,635.7	1,440.8	147.5	47.4	91	4,889.9	1,440.8	3,449.1	29
	1967..	1,038.7	913.0	109.1	16.6	89	3,809.4	913.0	2,896.4	24
3317	Steel pipe and tubes....1977..	2,681.4	2,454.5	129.5	97.4	95	5,620.7	2,454.5	3,166.2	44
	1972..	1,292.1	1,161.7	86.1	44.3	93	2,765.5	1,161.7	1,603.8	42
	1967..	1,148.6	994.8	117.7	36.1	89	2,629.1	994.8	1,634.3	38

[1]Ratios are not calculated due to extensive duplication in that products of some establishments are used as materials by others.

[2]Miscellaneous receipts are included with secondary products to avoid disclosing operations of individual companies.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Blast furnaces and steel mills (SIC 3312)	Electrometallurgical products (SIC 3313)	Steel wire and related products (SIC 3315)	Cold finishing of steel shapes (SIC 3316)	Steel pipe and tubes (SIC 3317)	Other industries
	Total	(X)	41,998.2	930.6	2,258.6	2,713.2	2,681.4	(X)
	Primary products	(X)	39,288.2	850.2	2,036.7	2,523.0	2,454.5	(X)
	Secondary products	(X)	1,365.2	80.5	99.1	143.2	129.5	(X)
	Miscellaneous receipts	(X)	1,344.8		122.9	47.1	97.4	(X)
3312-	Blast furnaces and steel mill products	39,368.0	39,288.2	-	(D)	17.9	(D)	60.3
33121	Coke oven and blast furnace products	3,032.2	3,027.4	-	(Z)	-	-	4.8
33122	Steel ingot and semifinished shapes and forms	4,039.3	4,019.4	-	-	(D)	-	(D)
33123	Hot rolled sheet and strip tin mill products	11,057.8	11,039.7	-	-	10.6	(Z)	7.5
33124	Hot rolled bars, plates, and structural shapes	9,140.9	9,133.7	-	-	(D)	(D)	4.5
33125	Steel wire	606.3	(D)	-	-	-	-	(D)
33126	Steel pipe and tube	3,000.4	(D)	-	-	-	-	(D)
33127	Cold rolled steel sheet and strip	6,953.9	6,950.8	-	(D)	(D)	-	-
33128	Cold finished steel bars and bar shapes	421.9	418.5	-	-	(D)	-	(D)
3312A	Seamless rolled ring forgings, ferrous	93.6	93.6	-	-	-	-	-
3312B	Open die or smith forgings, hammer or press	288.9	(D)	-	-	-	-	(D)
3312C	Other steel mill products, except wire products	561.1	(D)	-	-	-	-	(D)
33120	Blast furnaces and steel mill products, n.s.k.	171.7	168.4	-	-	-	-	3.3
3313-	Electrometallurgical products	944.1	(D)	850.2	(D)	-	-	92.3
33131	Ferromanganese	159.1	-	(D)	-	-	-	(D)
33132	Ferrochromium	163.5	-	(D)	(D)	-	-	-
33133	Ferrosilicon	327.4	-	(D)	-	-	-	(D)
33134	Other ferroalloys produced in electric furnaces	290.2	(D)	220.5	(D)	-	-	68.4
33130	Electrometallurgical products, n.s.k.	3.9	-	3.9	-	-	-	-
3315-	Steel wire and related products	2,608.4	481.1	-	2,036.7	(D)	(D)	67.1
33151	Noninsulated ferrous wire rope, cable, and strand	439.1	(D)	-	346.1	-	-	(D)
33152	Steel nails and spikes	359.0	153.8	-	184.9	-	-	20.3
33155	Steel wire	729.8	(D)	-	695.5	(D)	-	14.7
33156	Fencing and fence gates	280.3	(D)	-	173.7	-	(D)	-
33157	Ferrous wire cloth and other woven wire products	84.5	(D)	-	63.9	-	-	(D)
33159	Other fabricated ferrous wire products	639.5	129.6	-	497.7	-	-	12.2
33150	Steel wire and related products, n.s.k.	76.2	-	-	74.7	-	-	1.5
3316-	Cold finishing of steel shapes	2,562.8	.6	-	(D)	2,523.0	(D)	18.8
33167	Cold rolled steel sheet and strip	1,628.5	-	-	(D)	1,605.1	(D)	(D)
33168	Cold finished bars and bar shapes	909.2	-	-	(D)	893.4	(D)	(D)
33160	Cold finishing of steel shapes, n.s.k.	25.1	.6	-	-	24.4	-	-
33176	Steel pipe and tube	2,620.3	-	-	(D)	(D)	2,454.5	127.2
	Other shipments by 4-digit product group:							
2819-	Industrial inorganic chemicals, n.e.c.	(X)	(D)	(D)	-	(D)	-	(X)
2874-	Phosphatic fertilizers	(X)	(D)	-	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	-	-	(D)	-	-	(X)
3321-	Gray iron castings	(X)	(D)	-	(D)	-	-	(X)
3325-	Steel castings, n.e.c.	(X)	(D)	-	-	-	(D)	(X)
3339-	Primary nonferrous metals, n.e.c.	(X)	-	(D)	-	-	-	(X)
3351-	Copper rolling and drawing	(X)	-	-	-	(D)	-	(X)
3353-	Aluminum sheet, plate, and foil	(X)	-	-	-	(D)	-	(X)
3356-	Nonferrous rolling and drawing, n.e.c.	(X)	(D)	-	(D)	(D)	(D)	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	-	(D)	-	-	(X)
3362-	Brass, bronze, and copper castings	(X)	2.3	-	-	-	-	(X)
3398-	Metal heat treating	(X)	-	-	(D)	(D)	-	(X)
3399-	Primary metal products, n.e.c.	(X)	(D)	-	-	-	-	(X)
3429-	Hardware, n.e.c.	(X)	-	-	(D)	-	-	(X)
3441-	Fabricated structural metal	(X)	-	-	-	-	(D)	(X)
3443-	Fabricated plate work (boiler shops)	(X)	(D)	-	-	-	(D)	(X)
3446-	Architectural and ornamental metal work	(X)	-	-	-	(D)	-	(X)
3449-	Miscellaneous metal work	(X)	(D)	-	-	-	(D)	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	75.1	-	(D)	-	(D)	(X)
3462-	Iron and steel forgings	(X)	(D)	-	(D)	-	-	(X)
3465-	Automotive stampings	(X)	(D)	-	-	-	-	(X)
3469-	Metal stampings, n.e.c.	(X)	(D)	-	-	-	-	(X)
3494-	Valves and pipe fittings	(X)	(D)	-	6.6	-	-	(X)
3499-	Fabricated metal products, n.e.c.	(X)	108.0	-	(D)	-	-	(X)
3523-	Farm machinery and equipment	(X)	(D)	-	-	-	-	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Blast furnaces and steel mills (SIC 3312)	Electrometallurgical products (SIC 3313)	Steel wire and related products (SIC 3315)	Cold finishing of steel shapes (SIC 3316)	Steel pipe and tubes (SIC 3317)	Other industries
	Other shipments by 4-digit product group--Con.							
3532-	Mining machinery	(X)	(D)	-	-	-	-	(X)
3542-	Machine tools, metal forming types	(X)	(D)	-	-	-	-	(X)
3545-	Machine tool accessories	(X)	(D)	-	-	-	-	(X)
3546-	Power driven hand tools	(X)	-	-	(D)	-	-	(X)
3644-	Noncurrent-carrying wiring devices	(X)	(D)	-	(D)	-	44.4	(X)
3679-	Electronic components, n.e.c	(X)	-	-	-	-	2.5	(X)
3714-	Motor vehicle parts and accessories	(X)	-	-	-	-	(D)	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	416.5	(D)	(D)	23.5	5.1	(X)
99980 98	Other miscellaneous receipts	(X)	628.1	(D)	(D)	15.7	33.5	(X)
99989 00	Resales	(X)	300.1	(D)	(D)	7.9	58.7	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3312-	3325 Steel foundries, n.e.c	(D)
	3533 Oil field machinery	(D)
3313-	2816 Inorganic pigments	(D)
	3334 Primary aluminum	(D)
	3339 Primary nonferrous metals, n.e.c	(D)
3315-	3357 Nonferrous wire drawing and insulating	(D)
	3452 Bolts, nuts, rivets, and washers	(D)
	3496 Miscellaneous fabricated wire products	(D)
3315-	3623 Welding apparatus, electric	(D)
3316-	3357 Nonferrous wire drawing and insulating	(D)
3317-	3321 Gray iron foundries	(D)
	3494 Valves and pipe fittings	(D)
	3499 Fabricated metal products, n.e.c	(D)
	3523 Farm machinery and equipment	(D)
	3644 Noncurrent-carrying wire devices	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a-1. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers		
					Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars	
			1977								
	BLAST FURNACES AND STEEL MILLS										
3312- --	Total	.....	(NA)	(X)	(X)	46,065.7	(X)	(X)	(X)	(X)	(X)
33121 -- 33131 11 33134 89	Coke oven, blast furnace, and selected electrometallurgical products	.....	(NA)	(X)	(X)	3,318.5	(X)	(X)	(X)	(X)	(X)
33121 --	Coke oven and blast furnace products	.....	(NA)	(X)	(X)	3,032.2	(X)	(NA)	(X)	(NA)	(X)
	Coke oven products:										
33121 11	Coke, except screenings and breeze	1,000 s. tons.	32	51,000.8	18,767.4	1,651.7	6,739.7	692.7	12,027.7	959.0	33,950.1
33121 12	Screenings and breeze	1,000 s. tons.	23	3,526.4	1,927.6	70.3	(D)	(D)	(D)	(D)	1,954.7
33121 31	Coke oven gas	Bil. ft.	12	750.8	80.2	43.7	(D)	(D)	(D)	(D)	636.3
	Coke oven byproducts:										
33121 41	Ammonia (sulfate and liquor)	.....	15	(X)	(X)	16.0	(X)	(D)	(X)	(D)	(X)
33121 51	Crude tar	Mil. gal	30	518.6	302.2	104.9	275.9	96.4	26.3	8.5	213.3
33121 61	Tar derivatives	.....	2	(X)	(X)	(D)	(X)	(D)	(X)	(D)	(X)
33121 71	Crude light oil	Mil. gal	23	163.1	98.2	43.1	(D)	(D)	(D)	(D)	(D)
33121 81	Light oil derivatives	Mil. gal	7	80.3	55.6	27.6	(D)	(D)	(D)	(D)	(D)
33121 83	Other coke oven byproducts	.....	5	(X)	(X)	(D)	(X)	(D)	(X)	(D)	(X)
	Blast furnace products:										
33121 91	Pig iron, including pig iron with silicon content up to and including 6 percent	1,000 s. tons.	15	71,349.0	4,496.4	652.0	2,695.6	429.9	1,797.0	221.4	67,311.0
33121 92	Slag		11	(X)	(S)	20.6	(X)	(X)	(X)	(X)	(X)
33121 93	Sinter from ore, flue dust, and other materials	1,000 s. tons.	2	27,883.7	(D)	(D)	(D)	(D)	(D)	(D)	23,055.7
33121 94	Blast furnace gas	Bil. ft.	1	3,777.8	(D)	(D)	(D)	(D)	-	-	3,522.3
33121 85 33131 11	Ferromanganese	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33121 85	Made in steel works (industry 3312)		2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33131 11	Made in electric furnaces and other furnaces (industry 3313 and other industries)		11	516.3	408.1	159.1	(D)	(D)	(D)	(D)	(D)
33121 79 33134 89	Other ferroalloys, including silvery iron and spiegeleisen		8	199.1	178.1	127.1	(D)	(D)	(D)	(D)	-
33121 79	Made in steel works (industry 3312)		-	-	-	-	-	-	-	-	-
33134 89	Made in electric furnaces and other furnaces (industry 3313 and other industries)		8	199.1	178.1	127.1	(D)	(D)	(D)	(D)	-
33121 98	Other blast furnace products	1,000 s. tons.	6	(S)	(D)	(D)	(D)	(D)	(D)	(D)	(S)
33121 00	Coke oven and blast furnace products, n.s.k.	.....	(NA)	(X)	(X)	.2	(X)	(X)	(X)	(X)	(X)
			1972								
	BLAST FURNACES AND STEEL MILLS										
3312- --	Total	.....	(X)	(X)	(X)	25,806.0	(X)	(X)	(X)	(X)	(X)
33121 -- 33131 11 33134 --	Coke oven, blast furnace, and selected electrometallurgical products	.....	(X)	(X)	(X)	1,754.0	(X)	(X)	(X)	(X)	(X)
33121 --	Coke oven and blast furnace products	.....	(X)	(X)	(X)	1,497.3	(X)	(X)	(X)	(X)	(X)
	Coke oven products:										
33121 11	Coke, except screenings and breeze	1,000 s. tons.	(X)	58,803.8	19,880.9	625.7	8,752.6	351.8	11,128.3	273.9	40,543.8
33121 12	Screenings and breeze	1,000 s. tons.	(X)	9,662.6	4,650.5	89.7	(D)	(D)	(D)	(D)	5,263.3
33121 31	Coke oven gas	Bil. ft.	(X)	1,624.1	109.2	21.3	(D)	(D)	(D)	(D)	1,445.9

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]: Total Quantity	Total Value (million dollars)	Shipments to other companies Quantity	Shipments to other companies Value (million dollars)	Interplant transfers Quantity	Interplant transfers Value (million dollars)	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.								
	BLAST FURNACES AND STEEL MILLS--Con.										
33121 --	Coke oven and blast furnace products--Con.										
	Coke oven byproducts:										
33121 41	Ammonia (sulfate and liquor)..	.....	(X)	(X)	(X)	8.1	(X)	(D)	(X)	(D)	(X)
33121 51	Crude tar.....	Mil. gal	(X)	711.6	348.8	38.0	316.8	34.2	32.0	3.8	352.7
33121 61	Tar derivatives.....	.....	(X)	(X)	(X)	18.8	(X)	(D)	(X)	(D)	(X)
33121 71	Crude light oil.....	Mil. gal	(X)	287.9							98.4
33121 81	Light oil derivatives.....	Mil. gal	(X)	99.9	90.1	16.5	(D)	(D)	(D)	(D)	9.4
33121 83	Other coke oven byproducts....	.....	(X)	(X)	(X)	55.3	(X)	(X)	(X)	(X)	(X)
	Blast furnace products:										
33121 91	Pig iron, including pig iron with silicon content up to and including 6 percent.....	1,000 s. tons.	(X)	80,719.3	8,506.0	549.4	3,317.9	220.3	5,188.1	329.1	69,469.0
33121 92	Slag.....		(X)	(X)	(X)	(3)	(X)	(3)	(X)	(3)	(X)
33121 93	Sinter from ore, flue dust, and other materials.....	1,000 s. tons.	(X)	39,580.1	964.6	13.0	(D)	(D)	(D)	(D)	38,337.3
33121 94	Blast furnace gas.....	Bil. ft.	(X)	4,947.3	(X)	323.7	(X)	(D)	(X)	(D)	4,734.4
33121 85 33131 11	Ferromanganese.....	1,000 s. tons.	(X)	1,072.4	707.6	131.0	514.5	101.0	193.1	30.0	276.9
33121 85	Made in steel works (industry 3312).....		(X)	(NA)	(NA)	42.1					
33121 11	Made in electric furnaces and other furnaces (industry 3313 and other industries).....		(X)	(NA)	(NA)	88.9	514.5	101.0	193.1	30.0	276.9
33121 79 33134 89	Other ferroalloys, including silvery iron and spiegeleisen		(X)	391.4	370.8	163.5	(D)	(D)	(D)	(D)	-
33121 79	Made in steel works (industry 3312).....		(X)	-	-	-	-	-	-	-	-
33134 89	Made in electric furnaces and other furnaces (industry 3313 and other industries).....		(X)	391.4	370.8	163.5	(D)	(D)	(D)	(D)	-
33121 98	Other blast furnace products..	1,000 s. tons.	-	-	-	-	-	-	-	-	-

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments including interplant transfers[1]: 1977 Quantity[2]	1977 Value (million dollars)	1972 Quantity	1972 Value (million dollars)
	BLAST FURNACES AND STEEL MILLS						
33122 --	Steel ingot and semifinished shapes:						
	As reported in Current Industrial Reports MA-33B, Steel Mill Products.....	.....	(NA)	(X)	4,028.9	(X)	2,352.4
	As reported in census of manufactures.....	.....	58	(X)	4,039.3	(X)	2,502.9
33123 --	Tin mill products, hot rolled sheet and strip:[4]						
	As reported in Current Industrial Reports MA-33B, Steel Mill Products.....	.....	(NA)	(X)	11,919.1	(X)	6,746.8
	As reported in census of manufactures.....	.....	36	(X)	11,057.8	(X)	6,740.1
33124 --	Hot rolled bars and bar shapes, plates:						
	As reported in Current Industrial Reports MA-33B, Steel Mill Products.....	.....	(NA)	(X)	9,133.4	(X)	5,602.7
	As reported in census of manufactures.....	.....	85	(X)	9,140.9	(X)	5,612.8
33125 -- 33155 --	Steel wire:						
	As reported in Current Industrial Reports MA-33B, Steel Mill Products.....	.....	(NA)	(X)	1,284.0	(X)	719.6
	As reported in census of manufactures.....	.....	(NA)	(X)	1,336.1	(X)	726.3
33125 00	Made in steel mills (industry 3312).....	.....	24	(X)	606.3	(X)	397.6
33155 00	Made in steel wire drawing (industry 3315) and other industries.....	.....	84	(X)	729.8	(X)	328.7

See footnotes at end of table.

Table 6a-1. Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments including interplant transfers[1]			
				1977		1972	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	BLAST FURNACES AND STEEL MILLS--Con.						
33126 -- 33176 --	Steel pipe and tube:						
	As reported in Current Industrial Reports MA-33B, Steel Mill Products		(NA)	(X)	5,552.7	(X)	2,620.7
	As reported in census of manufactures		(NA)	(X)	5,620.4	(X)	2,765.5
33126 00	Made in steel mills (industry 3312)		23	(X)	3,000.4	(X)	1,501.0
33176 00	Made in steel pipe and tubes (industry 3317) and other industries		120	(X)	2,620.3	(X)	1,264.5
33127 -- 33167 --	Cold rolled steel sheets and strips:[4]						
	As reported in Current Industrial Reports MA-33B, Steel Mill Products		(NA)	(X)	7,694.6	(X)	[4]3,882.0
	As reported in census of manufactures		(NA)	(X)	8,582.4	(X)	[4]4,037.9
33127 00	Made in steel mills (industry 3312)		27	(X)	6,953.9	(X)	3,134.1
33167 00	Made in cold finishing of steel shapes (industry 3316) and other industries		45	(X)	1,628.5	(X)	903.8
33128 -- 33168 --	Cold finished steel bars and bar shapes:						
	As reported in Current Industrial Reports MA-33B, Steel Mill Products		(NA)	(X)	1,313.8	(X)	777.1
	As reported in census of manufactures		(NA)	(X)	1,331.1	(X)	827.6
33128 00	Made in steel mills (industry 3312)		17	(X)	421.9	(X)	268.7
33168 00	Made in cold finishing of steel shapes (industry 3316) and other industries		39	(X)	909.2	(X)	558.9
33160 00	Cold finishing of steel shapes, n.s.k.		(NA)	(X)	25.1	(X)	24.4
3312A -- 34627 --	Seamless rolled ring forgings, ferrous	1,000 s. tons.	(NA)	(S)	207.5		
3312A --	Made in steel mills (industry 3312)		(NA)	(S)	93.6		
34627 --	Made in steel forgings (industry 3462) and other industries		(NA)	(S)	113.8		
	Carbon steel		(NA)	*59.7	56.8		
3312A 21	Made in steel mills (industry 3312)		3				
34627 11	Made in steel forgings (industry 3462) and other industries		15	*59.7	56.8		
	Alloy steel, excluding stainless and hi-temp		(NA)	*57.7	73.4		
3312A 23	Made in steel mills (industry 3312)		4				
34627 13	Made in steel forgings (industry 3462) and other industries		15	*57.7	73.4		
	Stainless steel		(NA)	(S)	40.9		
3312A 25	Made in steel mills (industry 3312)		3				
33627 15	Made in steel forgings (industry 3462) and other industries		12	(S)	40.9		
	Hi-temp metal forgings (iron, nickel, or cobalt-base alloys)		(NA)	*4.9	36.4		
3312A 27	Made in steel mills (industry 3312)		1				
34627 17	Made in steel forgings (industry 3462) and other industries		9	*4.9	36.4		
3312B -- 34628 --	Open die or smith forgings (hammer or press), ferrous		(NA)	595.2	673.6	(NA)	524.6
3312B --	Made in steel mills (industry 3312)		(NA)	185.6	288.9		
34628 --	Made in steel forgings (industry 3462)		(NA)	309.6	384.7		
	Carbon steel		(NA)	276.5	199.1		
3312B 61	Made in steel mills (industry 3312)		8	69.5	53.0		
34628 11	Made in steel forgings (industry 3462) and other industries		54	173.0	146.1		
	Alloy steel, excluding stainless and hi-temp		(NA)	241.4	427.8		
3312B 63	Made in steel mills (industry 3312)		10	114.6	229.1		
34628 13	Made in steel forgings (industry 3462) and other industries		52	126.8	198.7		
	Stainless steel		(NA)	9.1	34.6		
3312B 65	Made in steel mills (industry 3312)		3				
34628 15	Made in steel forgings (industry 3462) and other industries		27	9.1	34.6		
	Hi-temp metal forgings (iron, nickel, or cobalt base alloys)		(NA)	2.3	12.0		
3312B 67	Made in steel mills (3312)		1				
34628 17	Made in steel forgings (industry 3462) and other industries	1,000 s. tons.	9	2.3	12.0		

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments including interplant transfers[1]			
				1977		1972	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	BLAST FURNACES AND STEEL MILLS--Con.						
3312C --	Other steel mill products, except wire products:						
	As reported in Current Industrial Reports MA-33B, Steel Mill Products	.....	(NA)	(X)	552.9	(X)	246.3
	As reported in census of manufactures	.....	14	(X)	561.1	(X)	281.0
33120 00	Blast furnaces and steel mills, n.s.k., typically for establishments with more than 20 employees (see note)	.....	(NA)	(X)	71.8	(X)	
33120 02	Blast furnaces and steel mills, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	99.9	(X)	8.9

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers		
					Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)	
			1977								
	ELECTROMETALLURGICAL PRODUCTS										
3313- --	Total	.....	(NA)	(X)	(X)	[5]944.1	(X)	(X)	(X)	(X)	(X)
33132 11	Ferrochromium	1,000 s. tons (gross weight)	8	333.7	327.0	163.5	(D)	(D)	(D)	(D)	(D)
33133 11	Ferrosilicon	↕	15	991.5	712.8	327.4	(D)	(D)	(D)	(D)	(D)
33121 85 33131 11	Ferromanganese		(NA)	[5]516.3	[5]408.1	[5]159.1	(D)	(D)	(D)	(D)	(D)
33121 85	Made in blast furnaces (industry 3312)		2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33131 11	Made in electric and other furnaces (industry 3313 and other industries)		11	516.3	408.1	159.1	(D)	(D)	(D)	(D)	(D)
33134 --	Other ferroalloys and products made in electric and other furnaces, except blast furnaces		(NA)	691.7	661.5	290.2	(NA)	(NA)	(NA)	(NA)	(D)
33134 15	Superalloys		4	24.8	24.2	41.0	(D)	(D)	(D)	(D)	(D)
33121 79 33134 89	Other ferroalloys, including silvery iron and spiegeleisen		(NA)	199.1	178.1	127.1	(D)	(D)	(D)	(D)	-
33121 79	Made in blast furnaces (industry 3312)		-	-	-	-	-	-	-	-	-
33134 89	Made in electric and other furnaces (industry 3313 and other industries)		10	199.1	178.1	127.1	(D)	(D)	(D)	(D)	-
33134 98	Other products made in electric and other furnaces, except blast furnaces	↕ 1,000 s. tons (gross weight)	11	467.8	459.2	122.1	(D)	(D)	(D)	(D)	-
33130 02	Electrometallurgical products, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	(X)	3.9	(X)	(X)	(X)	(X)	(X)
			1972								
	ELECTROMETALLURGICAL PRODUCTS										
3313- --	Total	.....	(NA)	(X)	(X)	594.4	(X)	550.7	(X)	43.7	(X)
33132 11	Ferrochromium	1,000 s. tons (gross weight)	(NA)	452.1	354.6	116.6	(D)	(D)	(D)	(D)	94.0

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers		
					Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)	
			1972--Con.								
	ELECTROMETALLURGICAL PRODUCTS--Con.										
33133 11	Ferrosilicon	1,000 s. tons (gross weight)	(NA)	871.3	823.7	180.8	797.6	176.7	26.1	4.1	80.4
33121 85 33131 11	Ferromanganese		(NA)	1,072.4	707.6	131.0	514.5	101.0	193.1	30.0	276.9
33121 85	Made in blast furnaces (industry 3312)		(NA)	(NA)	(NA)	42.1					
33131 11	Made in electric and other furnaces (industry 3313 and other industries)		(NA)	(NA)	(NA)	88.9	514.5	101.0	193.1	30.0	276.9
33134 --	Other ferroalloys and products made in electric and other furnaces except blast furnaces		(NA)	391.4	370.8	163.5	(D)	(D)	(D)	(D)	(D)
33134 15	Superalloys		(NA)	(6)	(6)	(6)	(D)	(D)	(D)	(D)	(D)
33121 79 33134 89	Other ferroalloys, including silvery iron and spiegeleisen		(NA)	6391.4	6370.8	6163.5	(D)	(D)	(D)	(D)	(D)
33121 79	Made in blast furnaces (industry 3312)		-	-	-	-	-	-	-	-	-
33134 89	Made in electric and other furnaces(industry 3313 and other industries		(NA)	6391.4	6370.8	6163.5	(D)	(D)	(D)	(D)	(D)
33134 98	Other products made in electric and other furnaces, except blast furnaces	1,000 s. tons (gross weight)	(NA)	(6)	(6)	(6)	(D)	(D)	(D)	(D)	(D)
33130 00	Electrometallurgical products, n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	(X)	2.2	(X)	2.2	(X)	-	(X)
33130 02	Electrometallurgical products, n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	(X)	(X)	.3	(X)	.3	(X)	-	(X)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
33125 -- 3315- -- 34961 -- 34964 -- 34966 -- 34967 -- 34968 --	STEEL WIRE AND RELATED PRODUCTS		(NA)	(X)	4,369.2	(X)	2,599.8
33125 --	Steel wire made in steel mills		(NA)	(X)	606.3	(X)	397.6
3315- --	Steel wire and related products made by wire drawers		(NA)	(X)	2,608.4	(X)	1,512.6
34961 -- 34964 -- 34966 -- 34967 -- 34968 --	Miscellaneous fabricated steel wire products not made by wire drawers		(NA)	(X)	1,154.5	(X)	689.6

See footnotes at end of table.

Table 6a-1. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
33125 -- 3315- -- 34961 -- 34964 -- 34966 -- 34967 -- 34968 --	STEEL WIRE AND RELATED PRODUCTS--Con.						
33151 -- 34961 --	Noninsulated ferrous wire rope, cable, and strand	.....	(NA)	(X)	610.5	(X)	366.6
33151 --	Made in industries 3312 and 3315	.....	(NA)	(X)	439.1	(X)	270.2
34961 --	Made in industry 3496 and other industries	.....	(NA)	(X)	171.4	(X)	96.4
33151 11 34961 11	Iron and steel wire rope and cable	1,000 s. tons.	(NA)	(S)	394.6	398.2	243.2
33151 11	Made in industries 3312 and 3315		29	(S)	307.3	333.0	188.2
34961 11	Made in industry 3496 and other industries		38	(S)	87.3	65.2	55.0
33151 21 34961 21	Composite strand, rope, and cable, including wire strands of different metals, except ACSR		(NA)	(S)	60.4	4.0	7.1
33151 21	Made in industries 3312 and 3315		7	*33.3	36.9	4.0	7.1
34961 21	Made in industry 3496 and other industries		8	(S)	23.5		
33151 33 34961 35	Steel wire strand for prestressed concrete		(NA)	(S)	34.5	70.6	27.2
33151 33	Made in industries 3312 and 3315		5	49.9	34.5	70.6	27.2
34961 35	Made in industry 3496 and other industries		4	(S)			
33151 35 34961 33	Steel wire strand, except wire strand for prestressed concrete, including guard rail cable		(NA)	34.3	55.1	175.0	55.4
33151 35	Made in industries 3312 and 3315		11	34.3	55.1	142.1	48.3
34961 33	Made in industry 3496 and other industries		1			32.9	7.1
33151 41 34961 41	Wire forms		(NA)	(S)	56.4	(NA)	28.1
33151 41	Made in industries 3312 and 3315		10	*22.3	15.8	(NA)	3.7
34961 41	Made in industry 3496 and other industries	1,000 s. tons.	47	(S)	40.6	(NA)	24.4
33151 00 34961 00	Noninsulated ferrous wire, rope, cable, and strand, n.s.k.	.....	(NA)	(X)	9.5	(X)	5.6
33152 -- 34967 --	Steel nails and spikes	.....	(NA)	(X)	447.1	(X)	[7]248.5
33152 --	Made in industries 3312 and 3315	.....	(NA)	(X)	359.0	(NA)	248.5
34967 --	Made in industry 3496 and other industries	.....	(NA)	(X)	88.1	(NA)	([7])
	Steel wire nails, spikes, and brads:						
33152 11 34967 11	Bright	1,000 s. tons.	(NA)	168.1	107.1	226.8	68.4
33152 13 34967 13	Galvanized		(NA)	74.3	52.1	81.5	29.0
33152 17 34967 15	Cement-coated		(NA)	76.8	43.5	73.3	20.0
33152 19 34967 17	Other nails, spikes, etc.		(NA)	25.8	25.5	77.4	40.9
33152 23 34967 19	Steel wire staples		(NA)	(S)	141.2	87.9	72.0
33152 25 34967 21	Steel tacks (wire and box)		(NA)	3.2	6.0	8.4	9.4
33152 33 34967 23	Steel cut nails, spikes, and brads, including track spikes and horseshoe nails	1,000 s. tons.	(NA)	(S)	67.5	19.8	7.0
33152 00 34967 00	Steel nails and spikes, n.s.k.	.....	(NA)	(X)	4.2	(X)	1.8
33125 -- 33155 --	Steel wire:						
	As reported in Current Industrial Reports MA-33B, Steel Mill Products	.....	(NA)	(X)	1,284.0	(X)	719.6
	As reported in census of manufactures	.....	(NA)	(X)	1,336.1	(X)	726.3
33125 00	Made in steel mills industry (3312)	.....	24	(X)	606.3	(X)	397.6
33155 00	Made in steel wire drawing industry (3315) and other industries	.....	84	(X)	729.8	(X)	328.7
33156 -- 34966 --	Fencing and fence gates	.....	(NA)	(X)	411.6	(X)	245.6
33156 --	Made in industries 3312 and 3315	.....	(NA)	(X)	280.3	(X)	172.1
34966 --	Made in industry 3496 and other industries	.....	(NA)	(X)	131.3	(X)	73.5
33156 13 34966 13	Chain link fencing, excluding posts, gates, and fittings	1,000 s. tons.	(NA)	(S)	170.9	173.3	65.1
33156 13	Made in industries 3312 and 3315		12	(S)	125.8	141.4	37.4
34966 13	Made in industry 3496 and other industries		20	(S)	45.1	31.9	27.7
33156 35 34966 35	Fence posts, gates, and fittings	1,000 s. tons.	(NA)	(S)	140.6	235.8	76.4

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
33125 -- 3315- -- 34961 -- 34964 -- 34966 -- 34967 -- 34968 --	STEEL WIRE AND RELATED PRODUCTS--Con.						
33156 -- 34966 --	Fencing and fence gates--Con.						
33156 21 34966 21	Wire fence, woven and welded	1,000 s. tons.	(NA)	(S)	78.0	368.9	100.0
33156 21	Made in industries 3312 and 3315		12	135.1	72.1	327.3	88.2
34966 21	Made in industry 3496 and other industries		7	(S)	5.9	41.6	11.8
33156 71 34966 71	Ornamental lawn fence	1,000 s. tons.	(NA)	(S)	9.1	4.0	2.3
33156 00 34966 00	Fencing and fence gates, n.s.k.	.....	(NA)	(X)	13.0	(X)	1.8
33157 -- 34964 --	Ferrous wire cloth and other woven ferrous wire products	.....	(NA)	(X)	222.1	(X)	128.9
33157 --	Made in industries 3312 and 3315	.....	(NA)	(X)	84.5	(X)	53.6
34964 --	Made in industry 3496 and other industries	.....	(NA)	(X)	137.7	(X)	75.3
33157 21 34964 11	Insect wire screening, steel, including stainless steel	Mil. sq. ft.	(NA)	(S)	6.7	83.8	3.8
33157 31 34964 31	Hardware cloth	1,000 s. tons.	(NA)	8.7	11.4	10.0	11.4
33157 61 34964 61	Industrial wire cloth, steel	Mil. sq. ft.	(NA)	*129.4	65.4	(NA)	41.1
33157 61	Made in industries 3312 and 3315		5	*104.3	16.9	(NA)	9.5
34964 61	Made in industry 3496 and other industries		25	**25.3	48.5	(NA)	31.6
33157 71 34964 71	Woven wire netting (poultry, fur farm, stucco, etc.)		(NA)	(S)	50.1	(NA)	25.7
33157 71	Made in industries 3312 and 3315		8	(S)	50.1	(NA)	25.7
34964 71	Made in industry 3496 and other industries		-				
33157 81 34964 81	Stainless steel paper machine wire cloth (Fourdrinier and cylinder)		(NA)	(S)	2.6	(NA)	5.4
33157 81	Made in industries 3312 and 3315		-	-	-	-	-
34964 81	Made in industry 3496 and other industries		3	(S)	2.6	(NA)	5.4
33157 98 34964 98	Other wire cloth and woven wire products, including diamond cloth	Mil. sq. ft.	(NA)	(S)	84.0	(NA)	37.6
33157 00 34964 00	Ferrous wire cloth and other woven ferrous wire products, n.s.k.	.....	(NA)	(X)	1.9	(X)	3.9
33159 -- 34968 --	Other fabricated wire products	.....	(NA)	(X)	1,265.4	(X)	847.5
33159 --	Made in industries 3312 and 3315	.....	(NA)	(X)	639.5	(X)	390.0
34968 --	Made in industry 3496 and other industries	.....	(NA)	(X)	625.9	(X)	7457.5
	Wire chain:						
33159 41 34968 41	Tire	1,000 s. tons.	(NA)	(S)	30.9	32.1	35.6
33159 41	Made in industries 3312 and 3315		5	30.8	27.9	32.1	35.6
34968 41	Made in industry 3496 and other industries		4	(S)	3.1		
33159 49 34968 49	Other		(NA)	(S)	158.3	78.2	69.0
33159 49	Made in industries 3312 and 3315		7	107.2	104.5	61.2	47.8
34968 49	Made in industry 3496 and other industries		18	(S)	53.8	17.0	21.2
33159 51 34968 51	Barbed and twisted steel wire		(NA)	(S)	52.0	141.2	37.9
33159 51	Made in industries 3312 and 3315		11	(S)	52.0	118.6	31.0
34968 51	Made in industry 3496 and other industries		3			22.6	6.9
33159 55 34968 55	Wire bale ties		(NA)	(S)	23.9	143.7	36.4
33159 55	Made in industries 3312 and 3315		10	41.9	19.4	130.2	30.6
34968 55	Made in industry 3496 and other industries	1,000 s. tons.	5	(S)	4.5	13.5	5.8

See footnotes at end of table.

Table 6a-1. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
33125 -- 3315- -- 34961 -- 34964 -- 34966 -- 34967 -- 34968 --	STEEL WIRE AND RELATED PRODUCTS--Con.						
33159 -- 34968 --	Other fabricated wire products--Con.						
	Welded steel wire fabric:						
33159 61 34968 61	Concrete reinforcing mesh	1,000 s. tons.	(NA)	*741.9	250.7	633.9	130.4
33159 61	Made in industries 3312 and 3315		27	718.8	241.8	539.4	109.3
34968 61	Made in industry 3496 and other industries		16	*23.1	8.9	94.5	21.1
33159 65 34968 65	Other welded steel wire fabric		(NA)	93.8	46.2	185.3	53.1
33159 65	Made in industries 3312 and 3315		8	91.3	39.2	176.7	47.0
34968 65	Made in industry 3496 and other industries	1,000 s. tons.	6	2.5	7.0	8.6	6.1
33159 71 34968 71	Wire garment hangers	Million lb.	(NA)	(S)	68.7	233.7	48.2
33159 71	Made in industries 3312 and 3315		6	(S)	48.2	176.5	32.4
34968 71	Made in industry 3496 and other industries	Million lb.	10	*72.7	20.5	57.2	15.8
33159 73 34968 73	Wire carts, including household, grocery, and industrial		(NA)	(X)	72.5	(X)	r50.1
33159 75 34968 75	Steel wire cages		(NA)	(X)	43.5	(X)	9.3
33159 77 34968 77	Paper clips		4	(X)	7.8	(X)	6r346.0
33159 98 34968 98	Other wire products, including baskets, guards, florists' designs, kitchenware, etc		(NA)	(X)	498.8		
33159 00 34968 00	Other fabricated wire products, n.s.k		(NA)	(X)	12.1	(X)	31.5
33150 00	Steel wire and wire products, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	42.2	(X)	32.0
33150 02	Steel wire and wire products, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	34.0	(X)	4.4

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	COLD FINISHING OF STEEL SHAPES			
3316- --	Total	(NA)	9,938.6	4,889.9
33127 -- 33167 --	Cold rolled steel sheet and strip:			
	As reported in the census of manufactures[4]	(NA)	8,582.4	4,037.9
33127 00	Made in steel works industry (3312)	27	6,953.9	3,134.1
33167 00	Made in cold finishing of steel shapes industry (3316) and other industries	45	1,628.5	903.8
	As reported in Current Industrial Reports MA-33B, Steel Mill Products[4]	(NA)	7,694.6	3,882.0
33128 -- 33168 --	Cold finished steel bars and bar shapes:			
	As reported in the census of manufactures	(NA)	1,331.1	827.6
33128 00	Made in steel works industry (3312)	17	421.9	268.7
33168 00	Made in cold finishing of steel shapes industry (3316) and other industries	39	909.2	558.9
	As reported in Current Industrial Reports MA-33B, Steel Mill Products	(NA)	1,313.8	777.1
33160 00	Cold finishing of steel shapes, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	4.6	22.7
33160 02	Cold finishing of steel shapes, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	20.4	1.7

See footnotes at end of table.

Table 3-1. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	STEEL PIPE AND TUBES			
3317- --	Total	(NA)	5,620.7	2,765.5
33176 -- 33126 --	As reported in the census of manufactures	(NA)	5,620.7	2,765.5
33126 00	Made in steel works industry (3312)	23	3,000.4	1,501.0
33176 00	Made in steel pipe and tubes industry (3317) and other industries	120	2,620.3	[2]1,264.5
	As reported in Current Industrial Reports MA-33B, Steel Mill Products	(NA)	5,552.7	2,620.7

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1972, product code 33121 92 was included with product code 33121 94.

[4]Data for galvanized, electrical, and other metallic coated sheet and strip are collected in CIR MA-33B without distinguishing between hot rolled (product class 33123) and cold rolled (product classes 33127 or 33167). In the CIR, they are treated as hot rolled. Thus, actual comparability between census and CIR data is achieved at a higher level as shown below:

	1977	1972
33123 33127 33167 Sheet and strip, including tin mill products:		
As reported in CIR MA-33B, Steel Mill Products	19,613.7	10,628.8
As reported in census of manufactures	19,640.2	10,778.0

[5]For 1977, product code 33121 85, Ferromanganese made in steel mills, was excluded to avoid disclosing operations of individual companies.

[6]For 1972, product codes 33134 15 and 33134 98 were included with product code 33134 89.

[7]For 1972, product class 34967 was included with product code 34968 98.

Table 6a-2. **Products and Product Classes — Receipts, Consumption, and Shipments of Steel Mill Products by All Producers: 1977 and 1972**

1977 product code	Product	Unit of measure	Receipts[1]	Steel consumed in producing plants for fabricated products or maintenance, repair, and operating supplies	Shipments[1] Total Quantity	Total Value f.o.b. plant ($1,000)	Shipments to other companies Quantity	Shipments to other companies Value f.o.b. plant ($1,000)	Interplant transfers Quantity	Interplant transfers Value f.o.b. plant ($1,000)
			1977							
3312- --	BLAST FURNACES AND STEEL MILLS									
	Carbon steel:									
33122 11	Ingots	Short tons.	1,539,106	r151,402	1,418,183	265,276	16,545	4,215	1,401,638	261,061
	Semifinished products:									
33122 13	Blooms, billets, slabs, sheet bars, tin mill bars, tube rounds, and skelp		r7,514,205	r242,050	r7,492,204	1,756,884	r1,155,685	r295,839	6,336,519	1,461,045
33122 19	Wire rods		r1,969,610	r90,892	r2,834,088	r773,097	r2,480,580	r673,313	353,508	99,784
	Finished products:									
	Plates:									
33124 11	Floor plates		128,258	270,392	5,981,011	1,925,711	5,634,400	1,823,236	346,611	102,475
33124 13	Plates, other than floor plates									
	Sheets:									
33123 11	Hot rolled, including enameling sheets		r7,577,978	r218,177	21,030,765	5,340,673	15,065,915	3,877,682	5,964,850	1,462,991
33167 11	Cold rolled[2]		r1,686,938	r390,443	17,303,942	5,568,766	15,341,930	4,942,110	1,962,012	626,656
	Sheets and strips:									
	Galvanized:									
33123 13	Hot-dipped		r122,263	r36,367	r4,850,813	r1,896,323	r4,674,465	r1,825,379	r176,348	r70,944
33123 15	Electrolytic		(D)	(D)	361,342	155,503	r361,342	r155,503	(2)	(2)
33123 17	All other metallic coated, including long ternes		(D)	(D)	r1,198,073	r500,399	r1,090,119	r455,743	107,954	44,656
33123 18	Electrical									
	Strips:									
33123 19	Hot rolled		1,026,098	r96,269	1,349,276	417,529	1,177,165	362,772	172,111	54,757
33167 15	Cold rolled[2]		311,158	r5,611	1,215,247	611,955	993,796	532,501	221,451	79,454
	Tin mill products:									
33123 24	Blackplate		(D)	(D)	765,600	270,801	[3]765,600	[2]270,801	(3)	(3)
33123 26	Electrolytic and hot-dipped tin plate		(D)	(D)	4,733,975	1,946,840	[3]4,733,975	[3]1,946,840	(3)	(3)
33123 28	Tin free steel		(D)	(D)	1,019,901	390,400	[3]1,010,901	[3]390,400	(3)	(3)
33123 29	All other tin mill products, including short ternes, and steel foil									
33124 15	Structural shapes (heavy), sheet piling and bearing piles		36,037	41,475	4,058,353	1,176,210	3,977,619	1,152,019	80,734	24,191
	Bars:									
33124 22	Hot rolled bars, except concrete reinforcing		1,591,051	r287,131	6,978,830	2,343,670	6,485,612	2,176,771	493,218	166,899
33124 24	Light structurals (under 3 inches)		6,772	r9,661	934,300	226,935	737,199	183,485	197,101	43,450
	Concrete reinforcing bars:									
33124 25	Rolled from new billets		127,069	652,352	r3,458,286	r694,632	r2,800,749	r565,762	r657,537	r128,870
33124 27	Rolled from old materials (rails, axles, etc.)								-	-
33168 11	Cold finished bars[4]		r3,278	r1,937	1,565,130	845,856	1,537,541	831,553	r27,589	r14,303
33124 29	Tool steel		(D)	(D)	5,424	r9,062	[3]5,424	[3]9,062	(3)	(3)
	Rails, wheels, and track accessories:									
	Rails:									
33120C 11	Standard tee (over 60 lb per yard)		(D)	(D)	1,090,881	337,442	[3]1,090,881	[3]337,442	(3)	(3)
33120C 13	All other rails, including light (60 lb per yard and under)		(D)	(D)	52,766	20,232	[3]52,766	[3]20,232	(3)	(3)
33120C 15	Joint bars		(D)	(D)	28,104	20,475	[3]28,104	[3]20,475	(3)	(3)
33120C 17	Tie plates		(D)	(D)	261,890	90,103	[3]261,890	[3]90,103	(3)	(3)
33120C 19	Wheels (rolled and forged)		(D)	(D)	157,477	84,674	[3]157,477	[3]84,674	(3)	(3)
	Pipe and tubes:[5]									
33176 11	Standard pipe		155,355	143,753	1,946,528	828,647	1,815,316	775,863	131,212	52,784
33176 12	Line pipe		(D)	(D)	1,101,780	436,831	[3]1,101,780	[3]436,831	(3)	(3)
33176 19	Oil country goods		(D)	(D)	1,827,792	1,113,205	[3]1,827,792	[3]1,113,205	(3)	(3)
	Pressure tubing:									
33176 21	Seamless		(D)	(D)	r164,500	r173,752	[3]164,500	[3]173,752	(3)	(3)
33176 22	Welded		(D)	(D)	r280,381	r161,917	r280,381	r161,917	(3)	(3)
	Mechanical tubing:									
33176 23	Seamless		(D)	(D)	283,660	226,303	[3]283,660	[3]226,303	(3)	(3)
33176 24	Welded		r13,695	r147,611	1,477,322	852,565	1,432,063	823,552	45,259	r29,013
33176 27	Structurals	Short tons.	(D)	(D)	633,398	228,349	[3]633,398	[3]228,349	(3)	(3)

See footnotes at end of table.

Table 6a-2. **Products and Products Classes — Receipts, Consumption, and Shipments of Steel Mill Products by All Producers: 1977 and 1972**—Con.

1977 product code	Product	Unit of measure	Receipts[1]	Steel consumed in producing plants for fabricated products or maintenance, repair, and operating supplies	Shipments[1] Total Quantity	Total Value f.o.b. plant ($1,000)	Shipments to other companies Quantity	Shipments to other companies Value f.o.b. plant ($1,000)	Interplant transfers Quantity	Interplant transfers Value f.o.b. plant ($1,000)
			1977--Con.							
3312- --	BLAST FURNACES AND STEEL MILLS--Con.									
	Carbon steel--Con.									
	Finished products--Con.									
	Wire:[6]									
33155 11	Plain wire	Short tons.	119,686	r596,353	r1,691,063	r766,778	r1,540,816	r704,582	r150,247	r62,196
33155 15	Galvanized wire		26,096	r25,093	271,507	142,960	254,472	133,919	17,035	9,041
33155 19	Other coated wire		(D)	(D)	195,757	182,402	182,365	171,924	13,392	10,478
	Wire products:[7]									
33152 21	Nails and staples		(D)	(D)	353,765	r212,537	r 350,815	r210,965	2,950	1,572
33159 51	Barbed and twisted wire		(D)	(D)	64,255	r33,104	r 364,255	r 333,104	(3)	(3)
33156 21	Wire fence, woven and welded		(D)	(D)	r140,457	r73,880	r 3140,457	r 373,880	(3)	(3)
33159 55	Bale ties		(D)	(D)	r39,770	r18,809	r39,502	r18,663	268	146
33151 11	Wire rope and cable		(D)	(D)	147,186	196,391	138,399	183,078	8,787	13,313
	Wire strand:									
33151 33	For prestressed concrete		(D)	(D)	r30,624	r16,219	r30,624	r16,219	-	-
33151 35	Other		(D)	(D)	r53,356	r50,873	r53,356	r 350,873	(3)	(3)
33157 71	Woven wire netting		(D)	(D)	r83,868	r54,573	r 383,868	r 354,573	(3)	(3)
	Alloy steel:									
33122 31	Ingots		r185,056	r406,912	236,576	133,981	43,346	33,738	193,230	100,243
	Semifinished products:									
33122 36	Blooms, billets, slabs, sheet bars, tube rounds, and skelp		875,214	r166,737	r1,587,032	r670,323	580,869	274,676	r1,006,163	r395,647
33122 39	Wire rods		(D)	(D)	56,945	31,312	356,945	331,312	(3)	(3)
	Finished products:									
	Sheets:									
33123 31	Hot rolled		(D)	(D)	984,770	318,997	810,196	264,246	174,574	54,751
33167 31	Cold rolled[2]		(D)	(D)	77,089	52,039	377,089	352,039	(3)	(3)
	Sheets and strips:									
33123 33	Hot-dipped galvanized		-	-	559,802	405,207	559,802	3405,207	-	-
33123 35	Electrical		(D)	(D)					(D)	(D)
	Strips:									
33123 39	Hot rolled		(D)	(D)	103,354	50,941	3103,354	350,941	(3)	(3)
33167 35	Cold rolled[2]		(D)	(D)	99,647	r170,052	95,655	r155,721	3,992	14,331
33124 31	Plates		134,897	15,694	r1,765,149	r793,115	31,765,149	3796,115	(3)	(3)
33124 35	Structural shapes (3 inches and over)		(D)	(D)	537,153	191,467	3537,153	3191,467	(3)	(3)
	Bars:									
33124 41	Hot rolled, including structural shapes under 3 inches		r195,639	67,541	2,436,779	1,143,072	2,267,405	1,067,896	169,374	75,176
33168 31	Cold finished[4]		202	167	257,702	221,485	3257,702	3221,485	(3)	(3)
	Tool steel:									
33124 48	High speed		(D)	(D)	25,364	134,019	325,364	3134,019	(3)	(3)
33124 49	Other than high speed		(D)	(D)	58,708	159,924	53,239	153,147	5,459	6,777
	Pipe and tubes:[5]									
33176 31	Line pipe		(D)	(D)	782,124	590,610	774,956	583,967	7,168	6,643
33176 33	Oil country goods		(D)	(D)	42,912	78,948	342,912	378,948	(3)	(3)
33176 43	Pressure tubing									
33176 45	Mechanical tubing									
33176 47	Structural		(D)	(D)	541,700	496,715	3541,700	3496,715	(3)	(3)
33176 49	Miscellaneous, including standard pipe									
	Wire:[6]									
33155 35	Galvanized wire		-	-	-	-	-	-	-	-
33155 31	Plain wire		(D)	(D)	r85,372	r66,272	r 385,372	r 366,272	(3)	(3)
33155 39	Other coated wire									
	Stainless steel:									
33122 51	Ingots		41,704	r13,347	61,414	67,269	361,414	367,269	(3)	(3)
	Semifinished products:									
33122 56	Blooms, billets, slabs, sheet bars, tube rounds, and skelp		r293,208	r7,411	254,357	283,884	41,166	56,983	213,191	226,901
33122 59	Wire rods		(D)	(D)	24,140	46,859	324,140	346,859	(3)	(3)
	Finished products:									
33124 53	Plates and structural shapes		5,720	3,066	99,492	204,472	399,492	3204,472	(3)	(3)
	Sheets:									
33123 51	Hot rolled		(D)	(D)	r289,797	r212,743	r8,594	r16,205	281,203	196,538
33167 51	Cold rolled[2]		(D)	(D)	428,018	617,974	420,449	609,578	r7,569	r8,396
	Strips:									
33123 59	Hot rolled		(D)	(D)	373,583	686,596	3373,583	3686,596	(3)	(3)
33167 55	Cold rolled[2]	Short tons.								

See footnotes at end of table.

Table 6a-2. **Products and Product Classes — Receipts, Consumption, and Shipments of Steel Mill Products by All Producers: 1977 and 1972**—Con.

1977 product code	Product	Unit of measure	Receipts[1]	Steel consumed in producing plants for fabricated products or maintenance, repair, and operating supplies	Shipments[1] Total Quantity	Total Value f.o.b. plant ($1,000)	Shipments to other companies Quantity	Shipments to other companies Value f.o.b. plant ($1,000)	Interplant transfers Quantity	Interplant transfers Value f.o.b. plant ($1,000)
			1977--Con.							
3312- --	BLAST FURNACES AND STEEL MILLS--Con.									
	Stainless steel--Con.									
	Finished products--Con.									
	Bars:									
33124 61	Hot rolled	Short tons.	(D)	(D)	61,033	131,157	44,914	105,647	16,119	25,510
33168 51	Cold finished[4]		(D)	(D)	96,059	246,457	[3]96,059	[3]246,457	([3])	([3])
	Pipe and tubes:[5]									
	Pressure tubing:									
33176 61	Seamless		(D)	(D)	17,328	87,557	[3]17,328	[3]87,557	([3])	([3])
33176 62	Welded		(D)	(D)	48,152	178,463	[3]48,152	[3]173,463	([3])	([3])
	Mechanical tubing:[5]									
33176 63	Seamless		(D)	(D)	4,339	30,886	[3]4,339	[3]30,886	([3])	([3])
33176 64	Welded		175	7,364	r18,288	r67,905	r [3]18,288	r [3]67,905	([3])	([3])
33155 51	Wire[6]	Short tons.	(D)	(D)	41,584	r125,578	41,358	r124,603	226	975
			1972							
3312- --	BLAST FURNACES AND STEEL MILLS									
	Carbon steel:									
33122 11	Ingots	1,000 s. tons.	1,434,682	140,930	1,495,953	121,528	124,254	10,602	1,371,699	110,926
	Semifinished products:									
33122 13	Blooms, billets, slabs, sheet bars, tin mill bars, tube rounds, and skelp		10,731,809	319,129	11,565,913	1,294,282	3,261,840	394,217	8,304,073	900,065
33122 19	Wire rods		1,605,247	60,818	2,512,311	394,595	2,170,571	339,723	341,740	54,872
	Finished products:									
	Plates:									
33124 11	Floor plates		(D)	(D)	192,703	38,219	[3]192,703	[3]38,219	([3])	([3])
33124 13	Plates, other than floor plates		450,018	149,736	6,499,017	1,189,279	5,657,393	1,059,503	841,624	129,776
	Sheets:									
33123 11	Hot rolled, including enameling sheets		7,657,620	371,624	20,540,426	2,898,592	14,561,501	2,082,072	5,978,925	816,520
33167 11	Cold rolled[2]		1,518,274	336,359	16,376,375	2,907,340	14,104,433	2,512,705	2,271,942	394,635
	Sheets and strips:									
	Galvanized:									
33123 13	Hot-dipped		103,823	89,192	5,217,942	1,118,297	4,782,492	1,015,989	435,450	102,308
33123 15	Electrolytic		(D)	(D)	311,703	68,817	[3]311,703	[3]68,817	([3])	([3])
33123 17	All other metallic coated, including long ternes		(D)	(D)	574,952	136,490	553,655	131,342	21,297	5,148
33123 18	Electrical									
	Strips:									
33123 19	Hot rolled		876,945	87,694	1,710,125	294,723	1,410,476	247,092	299,649	47,631
33167 15	Cold rolled[2]		211,046	19,878	1,040,742	325,153	838,401	284,720	202,341	40,433
	Tin mill products:									
33123 24	Black plate		130,427	4,442	601,429	115,639	[3]601,429	[3]115,639	([3])	([3])
33123 26	Electrolytic and hot-dipped tin plate		(D)	(D)	4,371,590	1,093,514	[3]4,371,590	[3]1,093,514	([3])	([3])
33123 28	Tin free steel		(D)	(D)	982,911	218,677	[3]982,911	[3]218,677	([3])	([3])
33123 29	All other tin mill products, including short ternes, and steel foil		-	-	23,580	6,310	[3]23,580	[3]6,310	([3])	([3])
33124 15	Structural shapes (heavy), sheet piling and bearing piles		(D)	(D)	5,199,305	910,918	5,004,326	876,757	194,979	34,161
	Bars:									
33124 22	Hot rolled bars, except concrete reinforcing		1,477,786	465,491	7,058,261	1,368,688	6,377,843	1,229,664	680,418	139,024
33124 24	Light structurals (under 3 inches)		(D)	(D)	550,271	94,067	519,962	87,751	30,309	6,316
	Concrete reinforcing bars:									
33124 25	Rolled from new billets		88,962	239,382	4,035,296	517,559	3,190,347	410,344	844,949	107,215
33124 27	Rolled from old materials (rails, axles, etc.)		(D)	(D)	193,057	25,284	[3]193,057	[3]25,284	([3])	([3])
33168 11	Cold finished bars[4]		3,863	2,066	1,573,836	488,775	1,516,959	469,232	56,877	19,543
33124 29	Tool steel	1,000 s. tons.	(D)	(D)	4,197	5,281	[3]4,197	[3]5,281	([3])	([3])

See footnotes at end of table.

Table 6a-2. **Products and Product Classes — Receipts, Consumption, and Shipments of Steel Mill Products by All Producers: 1977 and 1972**—Con.

1977 product code	Product	Unit of measure	Receipts[1]	Steel consumed in producing plants for fabricated products or maintenance, repair, and operating supplies	Shipments[1] Total Quantity	Total Value f.o.b. plant ($1,000)	Shipments to other companies Quantity	Shipments to other companies Value f.o.b. plant ($1,000)	Interplant transfers Quantity	Interplant transfers Value f.o.b. plant ($1,000)
			1972--Con.							
3312- --	BLAST FURNACES AND STEEL MILLS--Con.									
	Carbon steel--Con.									
	Finished products--Con.									
	Rails, wheels, and track accessories:									
	Rails:									
33120 11	Standard tee (over 60 lb per yard)	1,000 s. tons.	(D)	(D)	880,141	140,119	[3]880,141	[3]140,119	([3])	([3])
33120 13	All other rails, including light (60 lb per yard and under)		(D)	(D)	44,713	8,762	[3]44,713	[3]8,762	([3])	([3])
33120 15	Joint bars		(D)	(D)	27,212	11,858	[3]27,212	[3]11,858	([3])	([3])
33120 17	Tie plates		(D)	(D)	195,305	37,490	[3]195,305	[3]37,490	([3])	([3])
33120 19	Wheels (rolled and forged)		(D)	(D)	184,420	48,036	[3]184,420	[3]48,036	([3])	([3])
	Pipe and tubes:[5]									
33176 11	Standard pipe		(D)	(D)	2,366,597	547,593	2,174,511	507,072	192,086	40,521
33176 12	Line pipe		(D)	(D)	1,705,444	348,135	1,685,933	344,318	19,511	3,817
33176 19	Oil country goods		(D)	(D)	914,249	275,278	[3]914,249	[3]275,278	([3])	([3])
	Pressure tubing:									
33176 21	Seamless		(D)	(D)	93,220	48,600	[3]93,220	[3]48,600	([3])	([3])
33176 22	Welded		(D)	(D)	103,920	63,567	[3]103,920	[3]63,567	([3])	([3])
	Mechanical tubing:									
33176 23	Seamless		29,145	355	417,634	154,200	415,180	153,386	2,454	814
33176 24	Welded		6,281	44,755	1,244,084	401,025	1,216,889	389,038	27,195	11,987
33176 27	Structurals		(D)	(D)	664,054	124,493	[3]664,054	[3]124,493	([3])	([3])
	Wire:[6]									
33155 11	Plain wire		92,880	441,522	1,638,374	437,009	1,557,414	417,381	80,960	19,628
33155 15	Galvanized wire		(D)	(D)	300,629	86,058	293,028	82,764	7,601	3,294
33155 19	Other coated wire		(D)	(D)	189,155	94,889	[3]189,155	[3]94,889	([3])	([3])
	Wire products:[7]									
33162 21	Nails and staples		(D)	(D)	433,002	133,840	[3]433,002	[3]133,840	([3])	([3])
33159 51	Barbed and twisted wire		(D)	(D)	112,029	31,102	[3]112,029	[3]31,102	([3])	([3])
33156 21	Wire fence, woven and welded		(D)	(D)	385,786	103,424	373,865	100,551	11,921	2,873
33159 55	Bale ties		295	320	92,948	21,917	[3]92,948	[3]21,917	([3])	([3])
33151 11	Wire rope and cable		902	769	135,260	112,413	[3]135,260	[3]112,413	([3])	([3])
	Wire strand:									
33151 33	For prestressed concrete		-	-	55,967	17,037	[3]55,967	[3]17,037	([3])	([3])
33151 35	Other		(D)	(D)	143,483	52,487	140,851	51,364	2,632	1,123
33157 71	Woven wire netting		(D)	(D)	47,733	26,639	[3]47,733	[3]26,639	([3])	([3])
	Alloy steel:									
33122 31	Ingots		242,074	428,164	255,726	69,358	29,569	8,200	226,157	61,158
	Semifinished products:									
33122 36	Blooms, billets, slabs, sheet bars, tube rounds, and skelp		884,852	281,859	1,235,931	292,723	432,222	120,451	803,709	172,272
33122 39	Wire rods		(D)	(D)	57,617	17,299	[3]57,617	[3]17,299	([3])	([3])
	Finished products:									
	Sheets:									
33123 31	Hot rolled		(D)	(D)	481,662	98,315	[3]481,662	[3]98,315	([3])	([3])
33167 31	Cold rolled[2]		(D)	(D)	64,199	22,155	63,372	21,923	827	232
	Sheets and strips:									
33123 33	Hot-dipped galvanized		(D)	(D)	1,161,945	366,795	[3]1,161,945	[3]366,795	([3])	([3])
33123 35	Electrical		(D)	(D)						
	Strips:									
33123 39	Hot rolled		(D)	(D)	97,951	24,349	86,200	21,360	11,751	2,989
33167 35	Cold rolled[2]		(D)	(D)	50,493	53,507	49,937	52,470	556	1,037
33124 31	Plates		220,625	4,232	1,586,028	397,369	1,189,486	310,869	396,542	86,500
33124 35	Structural shapes (3 inches and over)		(D)	(D)	613,839	128,090	[3]613,839	[3]128,090	([3])	([3])
	Bars:									
33124 41	Hot rolled, including structural shapes under 3 inches		(D)	(D)	2,205,423	583,077	1,918,009	513,431	287,414	69,646
33168 31	Cold finished[4]		(D)	(D)	233,243	119,942	202,399	109,167	30,844	10,775
	Tool steel:									
33124 48	High speed		(D)	(D)	19,230	64,902	15,194	57,727	4,036	7,175
33124 49	Other than high speed		(D)	(D)	63,328	96,548	51,544	88,422	11,784	8,126
	Pipe and tubes:[5]									
33176 31	Line pipe		(D)	(D)	255,560	65,311	[3]255,560	[3]65,311	([3])	([3])
33176 33	Oil country goods		(D)	(D)	338,692	128,401	[3]338,692	[3]128,401	([3])	([3])
33176 43	Pressure tubing		(D)	(D)	50,654	47,150	[3]50,654	[3]47,150	([3])	([3])
33176 45	Mechanical tubing		(D)	(D)	470,776	242,909	[3]470,776	[3]242,909	([3])	([3])
33176 47	Structural		-	-	15,416	5,655	[3]15,416	[3]5,655	([3])	([3])
33176 49	Miscellaneous, including standard pipe	1,000 s. tons.	(D)	(D)						

See footnotes at end of table.

Table 6a-2. **Products and Product Classes — Receipts, Consumption, and Shipments of Steel Mill Products by All Producers: 1977 and 1972**—Con.

1977 product code	Product	Unit of measure	Receipts[1]	Steel consumed in producing plants for fabricated products or maintenance, repair, and operating supplies	Shipments[1]					
					Total		Shipments to other companies		Interplant transfers	
					Quantity	Value f.o.b. plant ($1,000)	Quantity	Value f.o.b. plant ($1,000)	Quantity	Value f.o.b. plant ($1,000)
			1972--Con.							
3312- --	BLAST FURNACES AND STEEL MILLS--Con.									
	Alloy steel--Con.									
	Finished products--Con.									
	Wire:[6]									
33155 31	Plain wire	1,000 s. tons.	(D)	(D)	42,189	35,393	[3]42,189	[3]35,393	[3][7]	[3]
33155 35	Galvanized wire	↑	-	-						
33155 39	Other coated wire	↓	-	-						
	Stainless steel:									
33122 51	Ingots		77,511	8,646	70,657	55,843	18,616	17,795	52,041	38,048
	Semifinished products:									
33122 56	Blooms, billets, slabs, sheet bars, tube rounds, and skelp		132,514	12,270	131,416	91,641	30,376	38,665	101,040	52,976
33122 59	Wire rods		(D)	(D)	14,235	15,083	[3]14,235	[3]15,083	[3]	[3]
	Finished products:									
33124 53	Plates and structural shapes		(D)	(D)	71,729	93,094	67,478	87,997	4,251	5,097
	Sheets:									
33123 51	Hot rolled		(D)	(D)	330,166	197,205	44,502	33,176	285,664	164,029
33167 51	Cold rolled[2]		3,843	621	253,001	257,050	244,673	248,149	8,328	8,901
	Strips:									
33123 59	Hot rolled		154,381	-	157,425	109,093	64,613	45,550	92,812	63,543
33167 55	Cold rolled[2]		(D)	(D)	295,598	316,758	267,202	286,036	28,396	30,722
	Bars:									
33124 61	Hot rolled		(D)	(D)	70,347	90,351	48,301	68,151	22,046	22,200
33168 51	Cold finished[4]		(D)	(D)	99,734	168,357	[3]99,734	[3]168,357	[3]	[3]
	Pipe and tubes:[5]									
	Pressure tubing:									
33176 61	Seamless		(D)	(D)	12,854	37,392	[3]12,854	[3]37,392	[3]	[3]
33176 62	Welded		(D)	(D)	35,935	75,222	[3]35,935	[3]75,222	[3]	[3]
	Mechanical tubing:									
33176 63	Seamless		(D)	(D)	3,264	16,682	[3]3,264	[3]16,682	[3]	[3]
33176 64	Welded		(D)	(D)	16,171	39,051	[3]16,171	[3]39,051	[3]	[3]
33155 51	Wire[6]	1,000 s. tons.	887	118	34,512	66,219	[3]34,512	[3]66,219	[3]	[3]

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies.

[1]Excludes receipts and shipments of steel processed on a conversion basis for nonsteel producing companies. Receipts data represent receipts at producing mills only but include receipts from both domestic and foreign sources.

[2]Includes 33127 products.

[3]Transfers to other plants of the same company are included with shipments to other companies. For 1977, such transfers constitute between 10 and 20 percent for carbon black plate, carbon joint bars, carbon seamless pressure tubing, alloy hot-rolled strip, alloy cold-finished bars, stainless hot- and cold-rolled strip, and stainless seamless pressure tubing; between 20 and 30 percent for carbon light structural bars, alloy pressure tubing, and alloy mechanical tubing; over 50 percent for stainless ingots and semifinished products and stainless seamless pressure tubing. For all other cases, interplant transfers constitute less than 10 percent of total.

[4]Includes 33128 products.

[5]Includes 33126 products.

[6]Includes 33125 products.

[7]Produced within steel works and wire drawing establishments.

Table 6a-3. Net Shipments of Steel Mill Products: 1977 and 1972

(In short tons)

Grade and product	Net shipments[1] 1977	Net shipments[1] 1972
All grades	90,806,735	89,924,097
Carbon steel	80,393,173	80,963,202
Ingots and semifinished shapes and forms (blooms, billets, slabs, sheet bars, tinplate bars, tube rounds, skelp and wire rods)	1,205,898	2,121,115
Finished shapes:		
Plates:		
Floor plates	6,123,145	205,870
Plates, other than floor plates		6,198,735
Sheets:		
Hot-rolled (including enameling sheets)	13,670,964	13,257,430
Cold-rolled	16,007,447	15,194,460
Sheets and strip:		
Galvanized:		
Hot-dipped	4,764,917	5,203,311
Electrolytic	355,148	292,419
All other metallic coated (including long ternes)	1,193,044	567,559
Electrical		
Strip:		
Hot-rolled	419,447	920,874
Cold-rolled	909,700	849,574
Tin-milled products:		
Electrolytic and hot-dipped tin plate	4,733,987	4,371,578
Black plate	734,868	475,444
Tin-free steel	1,019,846	982,918
All other tin-mill products (including short ternes and steel foil)		23,580
Structural shapes (heavy), sheet piling and bearing piles	4,063,791	5,212,917
Bars:		
Hot-rolled bars except concrete reinforcing	5,674,910	6,045,966
Light structurals (under 3")	937,189	499,612
Concrete reinforcing bars:		
Rolled from new billets	3,983,569	4,185,716
Rolled from old materials (rails, axles, etc.)		193,614
Cold-finished bars	1,563,789	1,572,039
Tool steel	5,260	544
Rails, wheels, and track accessories:		
Rails:		
Standard tee (over 60 lb. per yd.)	1,121,915	906,066
All other rails, including light (60 lbs. per yard and under)	53,758	45,382
Joint bars	27,306	23,145
Tie plates	266,554	200,143
Wheels (rolled and forged)	180,542	205,354
Pipe and tubes:		
Standard pipe	1,934,926	2,295,227
Line pipe	1,094,261	1,705,738
Oil country goods	1,815,708	862,540
Pressure tubing:		
Seamless	162,619	85,349
Welded	298,516	103,427
Mechanical tubing:		
Seamless	261,635	388,844
Welded	1,611,238	1,282,558
Structurals	659,695	664,199
Wire:		
Plain wire	2,167,730	1,987,016
Galvanized wire	270,504	260,083
Other coated wire	198,582	181,988

Grade and product	Net shipments[1] 1977	Net shipments[1] 1972
Carbon steel--Con.		
Finished shapes--Con.		
Wire products:[2]		
Nails and staples	351,426	424,589
Barbed and twisted wire	63,981	110,931
Wire fence, woven and welded	132,162	380,119
Bale ties	40,161	92,973
Wire rope and cable	147,562	135,127
Wire strand:		
For prestressed concrete	30,624	55,967
Other	53,349	135,830
Woven wire netting	81,500	58,332
Alloy steel, except stainless	9,244,295	8,064,036
Ingots and semifinished shapes and forms (blooms, billet, slabs, sheet bars, tube rounds, skelp, and wire rods)	1,337,558	1,115,319
Finished shapes:		
Sheet and strip:		
Sheets:		
Hot-rolled	883,654	502,549
Cold-rolled	76,304	64,147
Sheets and strip:		
Hot-dipped galvanized	581,080	801,128
Electrical		
Strip:		
Hot-rolled	80,216	75,886
Cold-rolled	64,742	50,348
Plates and structural shapes	2,185,800	1,979,518
Bars:		
Hot-rolled (including structural shapes under 3")	2,308,681	2,072,535
Cold-finished	257,667	232,631
Tool steel:		
High speed	18,606	7,357
Other than high speed	48,233	51,357
Pipes and tubes:		
Line pipe	775,679	255,553
Oil country goods		320,170
Pressure tubing	40,436	49,377
Mechanical tubing	500,778	429,134
Structural		
Miscellaneous (including standard pipe)		15,044
Wire:		
Galvanized wire	-	
Plain wire	78,861	41,983
Other coated wire		
Stainless steel	1,169,267	896,859
Ingots, and semifinished shapes and forms (blooms, billets, slabs, sheet bars, tube rounds, skelp, and wire rods)	24,487	20,100
Finished shapes:		
Plates and structurals	96,838	71,969
Sheets and strip:		
Sheets:		
Hot-rolled	83,595	37,969
Cold-rolled	409,396	249,779
Strip:		
Hot-rolled	277,204	3,044
Cold-rolled		277,119
Bars:		
Hot-rolled	59,674	48,720
Cold-rolled	89,295	87,781
Pipe and tubes:		
Pressure tubing:		
Seamless	15,549	12,476
Welded	47,989	35,796
Mechanical tubing:		
Seamless	3,575	2,689
Welded	25,477	15,947
Wire	36,188	33,743

- Represents zero.

[1]Net shipments are derived by subtracting steel mills' receipts of each steel mill shape for total shipments to other companies, transfers to other plants, and tonnage consumed in steel mills in production of fabricated products and as maintenance, repair, and operating supplies. For practical purposes, net shipments amount to zero for some products. Due to material in transit, this results in negative figures for a few items. Where products are grouped together for calculation of net shipments, some individual products within group may represent negative figures. In such cases, negative figures for individual products were subtracted from net shipments of the other products and an overall net shipments total is shown.

[2]Represents wire products produced within steel works and wiredrawing establishments.

Table 6a-4. Quantity and Value of Pig Iron Shipped by All Producers: 1977 and 1972

Product	Unit of measure	Total product shipments including interplant transfers			
		1977		1972	
		Quantity	Value (million dollars)	Quantity	Value (million dollars)
Pig iron, total reported in census of manufactures[1]	1,000 s. tons.	71,349.3	(NA)	80,719.3	(NA)
Pig iron, by grade, total[2]		82,392.0	14,839.8	89,048.0	6,890.9
Foundry		9,143.0	1,730.7	1,417.0	97.9
Basic		69,931.0	12,503.0	83,809.0	6,505.4
Bessemer		1,183.0	225.1	1,269.0	94.8
Low-phosphorous		170.0	30.1	105.0	8.0
Malleable		1,098.0	197.0	1,998.0	149.3
All other (not ferroalloys)	1,000 s. tons.	867.0	153.9	450.0	35.3

(NA) Not available.
[1]Represents total production.
[2]Source: Bureau of Mines, Department of Interior.

Table 6a-5. Quantity and Value of Ferroalloys Shipped by All Producers: 1977 and 1972

Product	Unit of measure	Total product shipments including interplant transfers			
		1977		1972	
		Quantity	Value (million dollars)	Quantity	Value (million dollars)
Ferroalloys and other additives reported in census of manufactures[1]	1,000 s. tons.	2,065.4	(NA)	2,867.2	(NA)
Ferroalloys, by grade, total[2]		1,770.7	919.2	2,379.8	567.6
Ferromanganese		337.9	141.6	726.6	126.6
Ferrosilicon and silvery iron		898.5	392.2	948.1	196.9
Ferrophosphorus		85.5	12.0	118.5	5.7
Ferrochromium		276.3	156.7	352.0	111.3
Silicomanganese		121.7	43.1	146.4	28.4
Other	1,000 s. tons.	50.8	173.6	88.2	98.7

(NA) Not available.
[1]Represents total production.
[2]Source: Bureau of Mines, Department of Interior.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
33121, COKE OVEN AND BLAST FURNACE PRODUCTS		
United States	3,032.2	1,497.3
Middle Atlantic Division:		
New York	199.8	(NA)
Pennsylvania	1,271.4	(NA)
East North Central Division:		
Ohio	523.8	(NA)
Indiana	86.9	(NA)
Michigan	84.8	(NA)
East South Central Division:		
Alabama	295.7	(NA)
West South Central Division:		
Texas	3.5	(NA)
33122, STEEL INGOT AND SEMIFINISHED SHAPES AND FORMS		
United States	4,039.3	2,502.9
Middle Atlantic Division:		
New York	166.6	GG
Pennsylvania	1,332.5	1,083.7
East North Central Division:		
Ohio	823.7	501.4
Indiana	166.5	GG
West South Central Division:		
Texas	119.8	EE
Pacific Division:		
California	91.5	31.4
33123, HOT ROLLED SHEET AND STRIP TIN MILL PRODUCTS		
United States	11,057.8	6,740.1
Middle Atlantic Division:		
Pennsylvania	1,485.0	1,038.2
East North Central Division:		
Ohio	1,922.5	1,251.3
Indiana	2,500.0	1,197.5
Illinois	764.8	GG
Michigan	1,542.0	785.7
33124, HOT ROLLED BARS, PLATES, AND STRUCTURAL SHAPES		
United States	9,140.9	5,612.8
Middle Atlantic Division:		
New York	499.2	GG
Pennsylvania	2,466.7	1,728.5
East North Central Division:		
Ohio	1,031.0	2,254.3
Indiana	1,427.8	596.5
Illinois	1,176.3	847.0
Michigan	68.1	746.3
South Atlantic Division:		
South Carolina	79.1	60.3
East South Central Division:		
Kentucky	50.6	29.8
Alabama	239.8	157.0
West South Central Division:		
Texas	558.5	GG
Pacific Division:		
California	234.8	168.7
33125, STEEL WIRE		
United States	606.3	397.6
Middle Atlantic Division:		
Pennsylvania	152.1	(NA)
East North Central Division:		
Illinois	177.7	(NA)
33126, STEEL PIPE AND TUBE		
United States	3,000.4	1,501.1
Middle Atlantic Division:		
Pennsylvania	1,076.5	(NA)
East North Central Division:		
Ohio	969.7	(NA)
33127, COLD ROLLED STEEL SHEET AND STRIP		
United States	6,953.9	3,134.1
Middle Atlantic Division:		
Pennsylvania	1,516.9	(NA)
East North Central Division:		
Ohio	1,775.2	(NA)
Indiana	1,645.5	(NA)
Illinois	234.2	(NA)
33128, COLD FINISHED STEEL BARS AND BAR SHAPES		
United States	421.9	268.7
Middle Atlantic Division:		
Pennsylvania	146.6	(NA)
East North Central Division:		
Ohio	75.9	(NA)
3312A, SEAMLESS ROLLED RING FORGINGS, FERROUS		
United States	93.6	(NA)
Middle Atlantic Division:		
Pennsylvania	93.6	(NA)
3312B, OPEN DIE OR SMITH FORGINGS, HAMMER OR PRESS		
United States	288.9	(NA)
Middle Atlantic Division:		
Pennsylvania	217.6	(NA)
3312C, OTHER STEEL MILL PRODUCTS, EXCEPT WIRE PRODUCTS		
United States	561.1	(NA)
Middle Atlantic Division:		
Pennsylvania	160.8	(NA)
33133, FERROSILICON		
United States	327.4	(NA)
East South Central Division:		
Tennessee	19.9	(NA)
Alabama	54.3	(NA)
33151, NONINSULATED FERROUS WIRE ROPE, CABLE, AND STRAND		
United States	439.1	270.2
Middle Atlantic Division:		
New York	8.0	(NA)
Pennsylvania	96.4	(NA)
East North Central Division:		
Ohio	13.1	(NA)
Indiana	38.2	(NA)
Pacific Division:		
California	18.3	(NA)
33152, STEEL NAILS AND SPIKES		
United States	359.0	248.5
New England Division:		
Massachusetts	10.1	(NA)
East North Central Division:		
Illinois	141.1	(NA)

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
33155, STEEL WIRE		
United States	729.8	328.7
New England Division:		
Massachusetts	66.3	(NA)
Connecticut	49.2	(NA)
Middle Atlantic Division:		
New York	30.6	(NA)
New Jersey	17.8	(NA)
Pennsylvania	47.0	(NA)
East North Central Division:		
Ohio	124.7	(NA)
Illinois	61.5	(NA)
South Atlantic Division:		
Florida	20.5	(NA)
East South Central Division:		
Tennessee	32.1	(NA)
Pacific Division:		
California	72.9	(NA)
33156, FENCING AND FENCE GATES		
United States	280.3	172.1
East North Central Division:		
Ohio	13.8	(NA)
Indiana	13.6	(NA)
Illinois	50.2	(NA)
West South Central Division:		
Texas	34.0	(NA)
Pacific Division:		
California	33.1	(NA)
33157, FERROUS WIRE CLOTH AND OTHER WOVEN WIRE PRODUCTS		
United States	84.5	53.6
Middle Atlantic Division:		
Pennsylvania	9.4	(NA)
33159, OTHER FABRICATED FERROUS WIRE PRODUCTS		
United States	639.5	390.0
New England Division:		
Connecticut	9.1	(NA)
Middle Atlantic Division:		
New York	6.4	(NA)
Pennsylvania	116.1	(NA)
East North Central Division:		
Ohio	25.2	(NA)
Indiana	34.8	(NA)
Illinois	70.9	(NA)
Michigan	45.8	(NA)
West North Central Division:		
Iowa	4.1	(NA)
Missouri	40.4	(NA)
South Atlantic Division:		
Florida	26.2	(NA)
33159, OTHER FABRICATED FERROUS WIRE PRODUCTS--Con.		
West South Central Division:		
Texas	26.4	(NA)
Pacific Division:		
California	34.6	(NA)
33167, COLD ROLLED STEEL SHEET AND STRIP		
United States	1,628.5	903.8
New England Division:		
Connecticut	177.4	(NA)
Middle Atlantic Division:		
New York	44.2	(NA)
New Jersey	35.7	(NA)
Pennsylvania	319.7	(NA)
East North Central Division:		
Ohio	504.8	(NA)
33168, COLD FINISHED BARS AND BAR SHAPES		
United States	909.2	558.9
New England Division:		
Massachusetts	9.5	(NA)
Connecticut	30.9	(NA)
Middle Atlantic Division:		
Pennsylvania	127.7	(NA)
East North Central Division:		
Ohio	185.1	(NA)
Indiana	239.8	(NA)
Illinois	129.0	(NA)
Michigan	72.8	(NA)
Pacific Division:		
California	30.9	(NA)
33176, STEEL PIPE AND TUBE		
United States	2,620.3	1,264.5
Middle Atlantic Division:		
New York	32.2	(NA)
New Jersey	108.3	(NA)
Pennsylvania	483.7	(NA)
East North Central Division:		
Ohio	448.3	(NA)
Illinois	288.0	(NA)
Michigan	180.6	(NA)
South Atlantic Division:		
Georgia	42.3	(NA)
East South Central Division:		
Alabama	52.6	(NA)
West South Central Division:		
Texas	122.5	(NA)
Mountain Division:		
Colorado	37.5	(NA)
Utah	2.1	(NA)
Pacific Division:		
California	166.7	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3312-	Blast furnaces and steel mill products	39,368.0	36,831.5	32,523.9	38,200.1	28,033.9	22,210.5	18,102.3	15,668.7
33121	Coke oven and blast furnace products	3,032.2	3,128.4	3,267.1	2,963.5	1,835.3	1,497.3	1,257.4	1,484.9
33122	Steel ingot and semifinished shapes and forms	4,039.3	4,046.3	3,278.5	4,197.6	3,003.8	2,502.9	2,526.5	2,034.7
33123	Hot rolled sheet and strip tin mill products	11,057.8	10,767.5	8,248.7	10,832.8	8,549.8	6,740.1	4,533.3	3,969.8
33124	Hot rolled bars, plates, and structural shapes	9,140.9	8,162.3	8,305.4	10,072.5	7,117.5	5,612.8	4,456.4	3,667.7
33125	Steel wire (see 33155)	606.3	549.9	451.1	716.7	538.9	397.6	377.6	364.0
33126	Steel pipe and tube (see 33176)	3,000.4	2,431.2	3,347.5	2,636.1	1,746.2	1,501.0	1,554.1	1,137.5
33127	Cold rolled steel sheet and strip (see 33167)	6,953.9	6,033.4	4,051.2	5,297.7	4,172.5	3,134.1	2,607.0	2,464.4
33128	Cold finished steel bars and bar shapes (see 33168)	421.9	322.2	296.5	455.8	361.4	268.7	256.6	199.4
3312A	Seamless rolled ring forgings, ferrous (see 34627)	93.6	428.5	393.3	370.1	308.2	266.1	208.6	120.7
3312B	Open die or smith forgings, hammer or press (see 34628)	288.9							
3312C	Other steel mill products, except wire products	561.1	961.8	884.6	657.3	400.3	289.9	324.8	225.8
33120	Blast furnaces and steel mill products, n.s.k.	171.7							
3313-	Electrometallurgical products	944.1	825.2	814.2	922.7	634.8	552.3	403.4	411.6
33131	Ferromanganese	159.1	(D)	(D)	(D)	(D)	88.9	(D)	(D)
33132	Ferrochromium	163.5	157.5	182.3	236.4	148.8	116.6	104.5	85.3
33133	Ferrosilicon	327.4	296.4	251.0	269.2	192.9	180.8	102.9	78.1
33134	Other ferroalloys produced in electric furnaces	290.2	(D)	(D)	(D)	(D)	163.5	(D)	(D)
33130	Electrometallurgical products, n.s.k.	3.9	1.7	-	(5.6)	(1.0)	2.5	1.9	1.8
3315-	Steel wire and related products	2,608.4	2,400.2	2,139.7	2,322.0	1,751.4	1,512.6	1,062.3	796.5
33151	Noninsulated ferrous wire rope, cable, and strand	439.1	454.7	463.8	378.6	295.1	270.2	164.2	100.9
33152	Steel nails and spikes	359.0	326.4	265.9	314.9	270.0	248.5	158.8	153.1
33155	Steel wire (see 33125)	729.8	558.2	489.0	535.6	385.4	328.7	300.5	257.6
33156	Fencing and fence gates (see 34966)	280.3	238.0	217.5	200.2	182.3	172.1	75.8	58.3
33157	Ferrous wire cloth and other woven wire products (see 34967)	84.5	135.4	101.8	76.1	65.7	53.6	35.4	24.3
33159	Other fabricated ferrous wire products (see 34968)	639.5	657.6	582.2	790.8	516.4	390.0	294.4	181.6
33150	Steel wire and related products, n.s.k.	76.2	(29.7)	(19.5)	(25.8)	36.5	49.5	33.2	20.7
3316-	Cold finishing of steel shapes	2,562.8	2,178.0	1,629.5	2,245.0	1,883.6	1,487.1	945.8	681.9
33167	Cold-rolled steel sheet and strip (see 33127)	1,628.5	1,324.4	937.9	1,335.7	1,178.6	903.8	554.9	408.5
33168	Cold-finished bars and bar shapes (see 33128)	909.2	799.0	669.4	880.5	675.3	558.9	372.6	273.4
33160	Cold-finishing of steel shapes, n.s.k.	25.1	(54.6)	(22.2)	(28.8)	29.7	24.4	18.3	-
33176	Steel pipe and tube (see 33126)	2,620.3	2,196.3	2,429.9	2,491.8	1,811.3	1,264.5	1,075.0	750.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3312, BLAST FURNACES AND STEEL MILLS					
	Materials, parts, containers, and supplies		(X)	21,841.0	(X)	12,293.4
121120	Coal used in the production of coke	1,000 s. tons	77,533.3	3,977.7	85,691.0	1,422.9
	Iron ore, including manganiferrous:					
101112	Crude	1,000 gross wt. s. tons	30,203.2	757.2	51,614.7	695.9
101123	Concentrates	↑	30,568.8	913.6	15,714.8	224.7
101125	Agglomerates	↑	59,990.0	1,907.6	64,618.9	997.0
106112	Manganese ore, including ferruginous (containing 10 percent manganese)	1,000 gross wt. s. tons	979.8	38.4	(D)	(2)
331051	Pig iron, excluding silvery iron	1,000 s. tons	5,154.9	624.3	9,147.7	500.0
999811	Iron and steel purchased scrap	↑	34,503.5	2,183.6	33,446.0	1,030.4
331081	Steel rails for rerolling	↑	203.3	16.6	263.5	13.7
999808	Aluminum and aluminum-base alloy scrap and dross	↑	(D)	(3)	70.3	1.9
	Nonferrous metals, alloys, and ferroalloys (ingot, pig, shot, etc.):	↑				
333402	Aluminum	↑	82.3	82.3	89.8	43.2
333113	Copper, including both refined unalloyed and copper-base alloy raw materials	↑	6.8	9.3	9.1	8.2
333971	Nickel, excluding ferronickel	↑	50.9	200.5	54.0	132.1
333975	Tin	↑	20.1	185.1	25.7	86.8
333232	Lead	↑	14.3	10.7	8.3	3.0
333348	Zinc	1,000 s. tons	242.1	176.5	282.1	101.4
333982	Cobalt	Million lb	1.7	9.0	.9	4.6
331313	Ferromanganese, silicomanganese, and manganese	1,000 s. tons	1,087.0	477.1	1,035.8	188.9
331320	Ferrochromium	↑	372.3	217.8	326.5	105.4
331331	Ferrosilicon (over 8 percent silicon)	↑	253.7	114.2	281.8	61.1
331343	Ferromolybdenum	↑	12.1	73.5	8.7	25.9
331340	Spiegeleisen	↑	(D)	(3)	10.6	1.1
331345	Ferronickel	↑	53.8	102.8	53.2	60.2
331351	Ferrotungsten	↑	.6	11.2	.7	4.4
331353	Ferrovanadium	↑	5.6	49.7	6.1	32.6
331342	Other ferroalloys, including silvery iron	↑	104.5	111.4	179.3	82.9
329502	Dead-burned magnesia	↑	10.4	1.4	19.2	1.9
281930	Sulfuric acid (100 percent H_2SO_4)	1,000 s. tons	618.4	28.7	858.6	24.9
281340	Oxygen, including high and low purity	Million cu. ft.	195,656.1	195.0	190,701.2	117.0
325501	Clay refractories	1,000 s. tons	(S)	224.1	1,528.6	107.0
329701	Nonclay refractories	↑	(S)	183.4	1,628.7	122.9
332161	Gray iron ingot molds and stools	↑	1,813.2	353.7	2,225.7	185.9
	Fluxes:	↑				
329503	Limestone	↑	18,256.4	112.6	17,588.7	60.3
327403	Lime, including quicklime and dead-burned dolomite	↑	9,883.4	293.7	6,435.5	107.8
329505	Fluorspar	↑	540.4	50.9	509.7	36.7
329506	Other fluxes	1,000 s. tons	4,389.1	51.0	8,052.6	50.7
331005	Ingots, semifinished shapes (blooms, billets, etc.), and other steel shapes received for further processing, except for drawing wire		(X)	4,051.5	(X)	2,305.5
970099	All other materials and components, parts, containers, and supplies consumed (see note)		(X)	3,783.7	(X)	23,279.6
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	261.2	(X)	64.9
	INDUSTRY 3313, ELECTROMETALLURGICAL PRODUCTS					
	Materials, parts, containers, and supplies		(X)	475.4	(X)	264.9
106112	Manganese ore	Gross weight	469.2	35.6	794.2	22.3
325501	Clay refractories	1,000 s. tons	8.7	.5	(NA)	.9
329701	Nonclay refractories	↑	(D)	(D)	9.6	.9
	Ferroalloys:	↑				
331313	Ferromanganese, silicomanganese, and manganese	↑	(D)	(D)	(D)	(D)
331320	Ferrochromium	↑	(D)	(D)	(X)	(5)
331331	Ferrosilicon (over 8 percent silicon)	↑	(D)	(D)	(D)	(D)
331343	Ferromolybdenum	↑	-	-		
331345	Ferronickel	↑	-	-		
331351	Ferrotungsten	↑	(D)	(D)	(X)	(5)
331353	Ferrovanadium	↑	-	-		
331342	Other ferroalloys, including silvery iron	↑	-	-	(D)	(D)
999811	Iron and steel purchased scrap	1,000 s. tons	407.0	18.2	558.4	14.9
970099	All other materials and components, parts, containers, and supplies		(X)	334.6	(X)	5219.6
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	28.9	(X)	1.9

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3315, STEEL WIRE AND RELATED PRODUCTS					
	Materials, parts, containers, and supplies	.....	(X)	1,200.1	(X)	584.5
	Nonferrous metals, alloys, and ferroalloys:					
333113	Copper, including both refined unalloyed and copper-base alloy raw materials	1,000 s. tons..	1.2	2.1	11.7	13.4
333975	Tin		.1	.6	(S)	.4
333232	Lead		4.0	2.4	3.2	1.0
333348	Zinc		23.8	16.3	23.7	7.9
281930	Sulfuric acid (100 percent H_2SO_4)		11.2	.7	16.0	.6
	Steel for drawing wire:					
	Rods:					
331061	Carbon steel		2,055.7	570.8	1,440.6	227.3
331063	Alloy steel, except stainless		**50.5	28.4	31.3	9.6
331065	Stainless steel		(S)	37.4	12.4	14.5
	Wire for redrawing:					
331073	Carbon steel		**239.7	95.2	167.7	39.3
331075	Alloy steel		(S)	12.7	(S)	1.5
331077	Stainless steel		6.0	15.2	2.6	4.1
331079	Other steel mill shapes for drawing wire	1,000 s. tons..	(S)	9.7	5.7	1.7
331005	Ingots, semifinished shapes (blooms, billets, etc.) and other steel shapes received for further process, except for drawing wire	.....	(X)	41.0	(X)	21.3
970099	All other materials and components, parts, containers, and supplies	.....	(X)	208.1	(X)	191.4
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	159.5	(X)	50.5
	INDUSTRY 3316, COLD FINISHING OF STEEL SHAPES (Material data was not collected for this industry)					
	INDUSTRY 3317, STEEL PIPE AND TUBES (Material data was not collected for this industry)					

Note: Supplemental data for code 970099 are presented in the 1977 Census of Manufactures subject series report "Selected Materials Consumed."
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or excees 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material code 106112 was included with material code 970099.

[3]For 1977, material codes 999808 and 331340 were included with material code 970099.

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1972, material codes 331320, 331343, 331345, 331351, and 331353 were included with material code 970099.

Table 8a. **Blast Furnaces and Steel Mills (Industry 3312) — Departmental Operations by Degree of Integration: 1977 and 1972**

Department	Man-hours of production workers (millions)						Production worker wages (million dollars)					
	Total	Fully integrated works[1]	Partially integrated works[1]			Non-integrated works[1]	Total	Fully integrated works[1]	Partially integrated works[1]			Non-integrated works[1]
			Total	With	Without				Total	With	Without	
1977												
All departments	668.7	360.9	231.9	90.2	141.7	75.8	6,653.0	3,712.7	2,230.4	877.2	1,353.2	710.1
Coke ovens	35.8	23.7	3.2	(D)	(D)	8.9	344.1	237.1	30.5	(D)	(D)	76.5
Blast furnaces	30.8	21.7	7.0	7.0	-	2.1	303.1	221.1	62.5	62.5	-	19.5
Steel department (furnaces)	58.4	30.1	26.0	9.1	16.9	2.3	586.0	306.6	259.6	95.9	163.7	19.8
Rolling and finishing mills:												
Sheet and strip mill	67.9	47.1	17.5	8.4	9.1	3.3	719.7	509.9	177.1	83.9	93.2	32.7
Tin mill	15.7	13.1	(D)	(D)	-	(D)	168.7	(D)	(D)	(D)	-	(D)
Bar mill, including rebars	37.8	16.9	17.8	3.2	14.6	3.1	347.3	162.3	160.1	31.4	128.7	24.9
Wire drawing mill	8.7	3.7	2.5	-	2.5	2.5	82.3	34.2	24.2	-	24.2	23.9
Pipe mill	24.7	12.6	11.8	3.4	8.4	.3	229.0	117.8	109.3	32.9	76.4	1.9
Other mills, including semifinishing, plate, and structural	76.7	42.8	33.1	20.1	13.0	.8	754.1	441.8	305.0	178.4	126.6	7.3
Foundry (iron or steel)	7.2	(D)	3.8	1.4	2.4	(D)	64.1	(D)	31.9	13.7	18.2	(D)
Forging (presses, hammers, or upsetters)	7.4	2.9	3.0	(D)	(D)	1.5	69.4	28.9	28.9	(D)	(D)	11.6
Other manufacturing or fabricating departments (nuts, bolts, containers, etc.)	16.6	(D)	(D)	(D)	(D)	(D)	141.7	18.5	(D)	(D)	(D)	(D)
Service or auxiliary operations and all other activities	217.2	131.4	78.2	34.2	44.0	7.6	2,195.5	1,347.7	775.9	342.4	433.5	71.9
Unspecified	63.8	9.7	15.1	-	15.1	38.9	648.0	115.8	154.9	-	154.9	377.5
1972												
All departments	739.1	410.1	225.4	73.4	152.0	103.6	4,254.3	2,382.5	1,283.3	413.6	869.7	588.4
Coke ovens	34.9	24.6	-	-	-	10.3	185.0	131.8	-	-	-	53.2
Blast furnaces	37.3	23.7	8.5	8.5	-	5.0	200.1	129.0	45.6	45.6	-	25.5
Steel department (furnaces)	65.6	33.0	32.3	10.1	22.2	.4	409.1	197.6	209.6	60.6	149.0	1.9
Rolling and finishing mills:												
Sheet and strip mill	78.3	39.4	33.4	18.0	15.4	5.4	473.5	243.4	197.1	105.0	92.1	33.0
Tin mill	22.8	18.8	(2)	(2)	(2)	2.7	131.8	108.2	(2)	(2)	(2)	16.2
Bar mill, including rebars	64.5	36.0	20.9	5.2	15.7	7.5	360.4	206.5	110.0	23.9	86.1	43.9
Wire drawing mill	15.6	7.3	6.2	-	6.2	2.2	89.3	40.8	35.4	-	35.4	13.1
Pipe mill	23.4	14.7	(2)	(2)	(2)	4.3	128.5	77.4	(2)	(2)	(2)	28.7
Other mills, including semifinishing, plate, and structural	81.8	45.3	[2]37.8	[2]14.7	[2]23.1	4.5	486.2	263.6	[2]229.7	[2]75.7	[2]154.0	22.7
Foundry (iron or steel)	5.0	2.8	5.3	.9	4.4	1.4	26.7	15.5	26.1	4.6	21.5	7.5
Forging (presses, hammers, or upsetters)	5.7	1.2					29.1	6.6				
Other manufacturing or fabricating departments, (nuts, bolts, containers, etc.)	25.8	4.2	17.7	.9	16.8	3.9	145.1	24.0	97.6	5.7	91.9	23.6
Service or auxiliary operations and all other activities	278.4	159.1	63.3	15.1	48.2	56.0	1,589.5	938.1	332.2	92.5	239.7	319.1
Unspecified	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies.

[1]For definition, see Description of Industries in text.

[2]Data for "other mills" include data for tin mill and pipe mill.

[3]For 1972, data for establishments not reporting departmental operations were "raked" in same proportion as tabulated data of reporting establishments.

Table 8b. **Steel Wire Mills, Cold Finishing Mills, and Pipe and Tube Mills—Departmental Operations: 1977 and 1972**

Department	Steel wire drawing, etc. (SIC 3315)		Cold finishing mills (SIC 3316)		Steel pipe and tube (SIC 3317)	
	Man-hours (millions)	Production worker wages (million dollars)	Man-hours (millions)	Production worker wages (million dollars)	Man-hours (millions)	Production worker wages (million dollars)
1977						
All departments	49.0	304.9	28.7	238.8	43.7	330.6
Rolling and finishing mills:						
Sheet and strip mill	(Z)	(D)	10.4	98.4	-	-
Tin mill	-	-	(Z)	(D)	-	-
Bar mill, including rebars	-	-	(S)	(S)	(D)	(D)
Wire drawing mill	15.6	104.9	1.6	11.3	-	-
Pipe mill	(D)	(D)	(D)	(D)	20.0	173.7
Other mills, including semifinishing, plate, and structural	(D)	(D)	1.9	16.6	4.2	31.0
Other manufacturing or fabricating departments (nuts, bolts, forgings, containers, etc.)	12.6	82.3	2.0	13.2	8.4	50.5
Service or auxillary operations and all other activities	3.5	20.9	(S)	(S)	(S)	(S)
Unspecified	16.9	94.5	(S)	(S)	(S)	(S)
1972						
All departments	50.0	204.3	31.8	162.3	39.0	181.8
Rolling and finishing mills:						
Sheet and strip mill	[1]	[1]	11.4	59.9	-	-
Tin mill	-	-	-	-	-	-
Bar mill, including rebars	[1]	[1]	9.7	32.5	.4	1.9
Wire drawing mill	19.7	69.9	.4	2.0	-	-
Pipe mill	.3	1.0	.6	3.1	23.1	108.1
Other mills, including semifinishing, plate, and structural	1.3	5.6	1.5	8.2	3.5	18.1
Other manufacturing or fabricating departments (nuts, bolts, forgings, containers, etc.)	6.5	33.9	2.1	10.9	4.9	19.8
Service or auxillary operations and all other activities	3.9	25.5	5.8	32.4	2.9	17.1
Unspecified	18.3	68.4	.3	13.3	4.2	16.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (S) Withheld because estimate did not meet publication standards. (Z) Less than 50 thousand dollars or hours; under 50 employees.
[1]For definition, see Description of Industries in text.

Table 9. **Force Account Construction Workers: 1977**

1977 industry code	Industry	All establishments		Establishments reporting employees engaged in construction			
				Total		Engaged in construction[1]	
		Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)	Employees (1,000)	Payroll (millions)
3312	Blast furnaces and steel mills	441.9	8,725.7	117.3	2,308.1	2.5	42.9
3315	Steel wire and related products	31.7	436.6	(S)	(S)	(S)	(S)
3316	Cold finishing of steel shapes	19.4	334.6	(S)	(S)	(S)	(S)
3317	Steel pipe and tubes	27.8	449.4	(D)	(D)	(D)	(D)

(D) Withheld to avoid disclosing operations of individual companies. (S) Withheld because estimate did not meet publication standards.
[1]Number and gross earnings of employees on payroll engaged in construction of major additions or alterations to plans and utilized as a separate work force. Workers engaged in regular maintenance and repair operations are not included.

Ferrous and Nonferrous Foundries

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DESCRIPTION OF INDUSTRIES

FERROUS AND NONFERROUS FOUNDRIES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3321	Gray Iron Foundries
3322	Malleable Iron Foundries
3324	Steel Investment Foundries
3325	Steel Foundries, N.E.C.
3361	Aluminum Foundries
3362	Brass, Bronze, and Copper Foundries
3369	Nonferrous Foundries, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3321, GRAY IRON FOUNDRIES

This industry comprises establishments primarily engaged in the manufacture of gray iron castings, including cast iron pressure and soil pipes and fittings.

The total value of shipments for establishments classified in the Gray Iron Foundries industry amounted to $7,389 million in 1977, an increase of 91 percent from 1972. The value of shipments of products classified as primary to the industry was $7,835 million, an increase of 94 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $4,070 million in 1977, was 59 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 138.8 thousand employees, substantially the same as in 1972. The leading States in employment were Michigan, Ohio, Illinois, and Wisconsin, accounting for approximately 50 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 50 percent of the industry's employment although there has been some shift in the relative importance of individual States.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3322, MALLEABLE IRON FOUNDRIES

This industry comprises establishments primarily engaged in the manufacture of malleable iron castings.

The total value of shipments for establishments classified in the Malleable Iron Foundries industry amounted to $722 million in 1977, an increase of 42 percent from 1972. The value of shipments of products classified as primary to the industry was $670 million, an increase of 38 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $459 million in 1977, was 34 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 18.2 thousand employees, a decrease of 19 percent from 1972. The leading States in employment were Michigan, Ohio, Pennsylvania, and Wisconsin, accounting for approximately 70 percent of the industry's 1977 employment.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These

establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 3324, STEEL INVESTMENT FOUNDRIES

This industry comprises establishments primarily engaged in the manufacture of steel investment castings.

The total value of shipments for establishments classified in the Steel Investment Foundries industry amounted to $408 million in 1977, an increase of 55 percent from 1972. The value of shipments of products classified as primary to the industry was $434 million, an increase of 83 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $267 million in 1977, was 52 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.5 thousand employees, a decrease of 6 percent from 1972. The leading States in employment were Michigan, California, New Hampshire, and Oregon, accounting for approximately 50 percent of the industry's 1977 employment. Data for California and Oregon have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3325, STEEL FOUNDRIES, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of steel castings, not elsewhere classified.

The total value of shipments for establishments classified in the Steel Foundries, N.E.C. industry amounted to $2,312 million in 1977, an increase of 116 percent from 1972. The value of shipments of products classified as primary to the industry was $2,206 million, an increase of 110 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,440 million in 1977, was 104 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 54.8 thousand employees, an increase of 17 percent from 1972. The leading States in employment were Pennsylvania, Ohio, Illinois, and Wisconsin, accounting for approximately 50 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 50 percent of the industry's employment although there has been some shift in the relative importance of individual States.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3361, ALUMINUM FOUNDRIES

This industry comprises establishments primarily engaged in the manufacture of castings and die castings of aluminum and aluminum-base alloys.

The total value of shipments for establishments classified in the Aluminum Foundries industry amounted to $2,459 million in 1977, an increase of 94 percent from 1972. The value of shipments of products classified as primary to the industry was $2,294 million, an increase of 96 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,263 million in 1977, was 76 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 52.2 thousand employees, an increase of 14 percent from 1972. The leading States in employment were Ohio, California, Wisconsin, and Michigan, accounting for approximately 45 percent of the industry's 1977 employment. However, establishment counts and employment size ranges are provided. This represents a shift from 1972 when Ohio, California, Illinois, and Michigan accounted for approximately 45 percent of the industry's employment.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3362, BRASS, BRONZE, AND COPPER FOUNDRIES

This industry comprises establishments primarily engaged in the manufacture of castings and die castings of copper and copper-base alloy.

The total value of shipments for establishments classified in the Brass, Bronze, and Copper Foundries industry amounted to $553 million in 1977, an increase of 19 percent from 1972. The

value of shipments of products classified as primary to the industry was $616 million, an increase of 33 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $283 million in 1977, was 18 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.6 thousand employees, a decrease of 18 percent from 1972. The leading States in employment were Pennsylvania, California, Illinois, and Michigan, accounting for approximately 50 percent of the industry's 1977 employment.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

INDUSTRY 3369, NONFERROUS FOUNDRIES, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of castings and die castings of nonferrous materials, except aluminum, copper, and copper-base alloys.

The total value of shipments for establishments classified in the Nonferrous Foundries, N.E.C. industry amounted to $814 million in 1977, an increase of 38 percent from 1972. The value of shipments of products classified as primary to the industry was $878 million, an increase of 46 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $414 million in 1977, was 38 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 17.3 thousand employees, a decrease of 15 percent from 1972. The leading States in employment were Michigan, Ohio, New York, and Illinois, accounting for approximately 50 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 60 percent of the industry's employment although there has been some shift in the relative importance of individual States.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3321, GRAY IRON FOUNDRIES																
1977 Census--	865	984	683	138.8	2 146.0	116.8	236.1	1 703.2	4 070.4	3 355.7	7 388.7	503.1	(NA)	654.4	96	88
1976 ASM----	(NA)	(NA)	(NA)	136.0	1 945.4	114.5	229.7	1 534.4	3 522.7	3 122.8	6 597.4	394.7	3 459.8	611.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	138.0	1 723.1	116.5	227.4	1 356.9	3 101.6	2 767.8	5 829.4	366.9	3 251.1	576.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	151.8	1 795.6	130.0	264.5	1 443.9	3 035.4	2 783.6	5 786.7	439.7	2 878.7	594.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	152.4	1 695.9	130.7	272.3	1 379.2	2 750.0	2 029.4	4 790.8	226.4	2 562.8	399.4	(NA)	(NA)
1972 Census--	892	993	723	138.4	1 387.4	118.1	245.7	1 119.7	2 257.0	1 639.4	3 876.5	202.5	2 426.2	351.8	94	87
1971 ASM----	(NA)	(NA)	(NA)	132.6	1 210.1	112.9	224.7	960.8	1 945.9	1 386.7	3 332.5	234.5	2 243.5	334.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	141.0	1 153.5	120.8	239.7	914.5	1 785.3	1 311.3	3 085.4	217.3	2 119.8	328.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	144.0	1 182.4	124.6	260.1	959.6	1 959.4	1 312.5	3 247.8	145.7	1 833.9	289.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	136.0	1 052.4	117.5	245.1	853.2	1 727.2	1 156.1	2 883.5	174.6	1 697.7	244.9	(NA)	(NA)
1967 Census--	969	1 061	774	138.0	965.3	119.3	242.3	780.2	1 543.1	1 075.3	2 637.8	196.3	1 562.4	240.8	93	86
1966 ASM----	(NA)	(NA)	(NA)	140.7	978.3	122.1	259.7	803.0	1 646.4	1 096.9	2 728.2	243.2	(NA)	262.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	134.9	921.8	117.1	253.0	760.4	1 559.4	1 057.7	2 602.6	171.5	(NA)	239.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	126.3	825.2	109.8	235.6	679.9	1 353.8	953.9	2 286.2	75.9	989.2	220.8	(NA)	(NA)
1963 Census--	1 062	1 139	767	120.5	730.3	104.2	214.3	596.1	1 168.5	813.6	1 984.9	64.8	938.1	192.5	93	88
INDUSTRY 3322, MALLEABLE IRON FOUNDRIES																
1977 Census--	58	66	53	18.2	273.0	14.6	27.9	202.5	459.1	265.5	721.9	28.9	(NA)	43.6	86	93
1976 ASM----	(NA)	(NA)	(NA)	17.6	251.4	14.0	26.6	181.9	435.5	258.7	691.0	28.2	349.7	41.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.8	222.4	14.3	26.9	160.1	358.3	232.9	591.8	40.5	331.7	43.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	21.2	242.0	17.7	34.3	190.4	380.9	276.1	654.7	29.2	315.4	46.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	23.2	258.0	19.5	39.6	204.2	365.0	211.8	572.3	24.9	307.5	39.3	(NA)	(NA)
1972 Census--	64	73	64	22.5	234.5	18.7	38.1	184.3	342.6	167.1	507.9	34.9	310.9	33.2	87	91
1971 ASM----	(NA)	(NA)	(NA)	22.6	205.4	18.8	37.5	159.7	285.3	151.7	437.7	33.7	285.6	33.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	23.0	187.4	18.9	37.5	144.5	270.1	137.1	403.0	17.9	261.9	32.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	23.6	188.0	19.6	39.6	147.1	289.6	134.0	422.3	28.4	258.8	28.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	25.0	196.1	21.0	42.5	154.0	314.0	144.4	459.2	27.3	259.0	29.5	(NA)	(NA)
1967 Census--	72	81	75	25.4	187.0	21.4	43.0	147.3	296.5	142.9	438.3	21.9	239.2	29.5	85	89
1966 ASM----	(NA)	(NA)	(NA)	26.4	191.3	22.5	47.1	153.0	294.8	154.8	449.4	30.5	(NA)	29.4	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	25.1	178.9	21.5	45.7	144.6	279.2	138.5	416.2	21.8	(NA)	27.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	23.7	159.2	20.2	42.5	129.0	218.8	130.3	346.7	19.0	180.7	27.9	(NA)	(NA)
1963 Census--	76	81	71	22.3	142.0	18.8	38.8	112.7	204.6	111.8	317.5	16.3	168.1	24.0	87	87
INDUSTRY 3324, STEEL INVESTMENT FOUNDRIES[3]																
1977 Census--	80	92	68	10.5	128.7	8.1	16.5	85.9	267.4	144.8	407.5	10.7	(NA)	65.6	93	86
1976 ASM----	(NA)	(NA)	(NA)	9.9	117.3	7.7	15.4	79.6	251.3	146.6	395.2	13.2	110.1	58.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	10.4	112.8	8.3	16.5	79.6	240.0	135.1	376.5	22.3	105.2	53.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	13.9	137.8	11.4	23.0	96.6	279.3	144.9	408.0	11.7	113.3	69.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	11.6	102.5	9.2	18.4	71.1	194.2	100.3	284.5	7.0	104.3	42.2	(NA)	(NA)
1972 Census--	68	74	62	11.2	93.2	8.6	17.2	63.3	175.6	89.4	262.2	11.1	125.2	38.1	86	94
INDUSTRY 3325, STEEL FOUNDRIES, N.E.C.[3]																
1977 Census--	287	323	229	54.8	781.5	44.2	87.3	591.0	1 439.8	882.3	2 312.1	115.9	(NA)	341.3	87	91
1976 ASM----	(NA)	(NA)	(NA)	52.8	681.4	42.8	83.4	513.9	1 287.0	832.7	2 103.4	207.1	1 095.4	322.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	54.7	654.9	45.0	89.9	506.6	1 276.0	823.7	2 073.7	90.0	874.2	277.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	52.5	574.7	43.7	86.2	449.2	1 028.6	708.1	1 685.8	63.5	707.2	250.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	49.1	494.7	40.6	81.7	387.1	757.0	442.2	1 210.1	38.7	669.3	144.4	(NA)	(NA)
1972 Census--	225	260	201	46.7	440.2	38.5	75.5	337.4	706.0	368.4	1 067.4	31.5	693.9	152.1	89	88

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3361, ALUMINUM FOUNDRIES																
1977 Census--	994	1 038	461	52.2	691.4	44.2	86.3	531.0	1 263.0	1 213.4	2 459.1	121.2	(NA)	205.4	87	92
1976 ASM----	(NA)	(NA)	(NA)	51.3	616.4	42.6	83.0	471.5	1 077.8	1 026.8	2 102.3	72.9	721.0	183.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	46.6	516.0	38.2	71.5	382.6	861.2	807.8	1 673.0	134.0	795.2	160.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	54.6	544.6	46.1	86.9	422.4	946.8	938.5	1 862.4	135.8	670.0	184.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	51.5	491.4	44.0	88.3	387.3	853.3	688.8	1 522.8	45.5	577.5	138.0	(NA)	(NA)
1972 Census--	972	1 005	430	45.7	417.9	38.6	76.8	321.9	718.3	558.0	1 269.9	38.8	543.2	96.7	84	89
1971 ASM----	(NA)	(NA)	(NA)	40.9	346.9	33.8	68.9	260.9	591.8	454.2	1 042.5	41.9	468.6	89.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	46.4	353.4	39.1	77.6	270.5	582.5	466.2	1 053.5	53.7	469.7	89.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	48.6	374.6	41.7	84.6	294.2	636.9	500.2	1 123.9	66.0	471.6	89.4	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	46.4	342.1	39.6	79.9	265.5	578.7	451.9	1 025.6	49.5	395.6	74.7	(NA)	(NA)
1967 Census--	970	922	411	45.2	312.9	38.8	78.8	243.6	516.6	405.7	920.5	38.7	347.2	67.2	83	85
1966 ASM----	(NA)	(NA)	(NA)	44.8	300.8	38.1	78.6	231.5	499.4	421.2	916.8	38.9	(NA)	64.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	39.9	265.3	33.8	69.8	206.2	436.2	382.8	813.9	46.6	(NA)	67.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	36.8	240.6	31.0	65.2	188.1	381.7	332.2	708.7	25.9	290.2	56.7	(NA)	(NA)
1963 Census--	926	954	321	36.2	222.8	30.7	63.4	174.2	343.9	299.4	640.2	18.4	270.8	46.9	81	83
INDUSTRY 3362, BRASS, BRONZE, AND COPPER FOUNDRIES																
1977 Census--	476	489	180	12.6	148.3	10.2	19.8	106.7	283.0	274.1	553.3	17.9	(NA)	59.2	85	74
1976 ASM----	(NA)	(NA)	(NA)	13.2	143.8	10.4	20.2	103.5	286.2	258.1	545.6	18.1	192.1	62.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	12.5	135.5	9.9	18.2	96.5	262.8	248.4	512.1	16.3	186.9	68.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	15.7	144.9	12.1	24.1	105.3	281.5	329.5	610.2	14.8	168.8	68.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	15.2	138.6	12.9	25.4	103.9	266.3	250.7	509.2	13.6	168.7	62.5	(NA)	(NA)
1972 Census--	490	507	195	15.4	129.6	13.0	25.7	96.3	236.9	229.5	465.3	17.4	183.2	50.7	84	81
1971 ASM----	(NA)	(NA)	(NA)	16.4	133.4	13.2	27.3	97.9	221.2	211.6	434.5	8.8	185.6	58.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	18.2	134.7	15.1	31.1	100.9	247.4	232.2	476.9	25.7	188.6	58.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	17.7	120.6	14.8	28.4	89.5	221.9	212.8	433.0	14.3	134.9	51.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	16.1	114.3	13.5	27.3	83.6	211.8	198.8	409.2	10.4	133.1	49.9	(NA)	(NA)
1967 Census--	516	534	207	17.9	119.8	15.1	30.6	89.2	226.8	218.0	445.2	12.4	129.3	52.5	83	82
1966 ASM----	(NA)	(NA)	(NA)	17.9	112.7	15.2	31.9	84.3	216.9	239.4	451.7	9.9	(NA)	46.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	16.3	101.8	13.4	28.5	74.5	177.0	193.7	369.4	7.5	(NA)	39.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	15.7	92.7	13.0	27.4	69.9	158.3	160.2	317.2	8.3	110.9	38.5	(NA)	(NA)
1963 Census--	535	549	193	15.3	86.4	12.8	26.1	65.1	144.1	144.4	287.5	5.4	101.1	32.6	84	78
INDUSTRY 3369, NONFERROUS FOUNDRIES, N.E.C.																
1977 Census--	359	365	164	17.3	204.1	14.2	28.0	144.9	413.9	396.1	813.7	24.7	(NA)	84.7	85	77
1976 ASM----	(NA)	(NA)	(NA)	20.2	190.5	16.4	31.1	136.4	374.2	368.2	741.5	23.5	218.0	83.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	16.6	164.7	13.1	25.1	117.9	311.2	304.0	626.6	14.8	198.2	77.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	19.7	185.9	16.4	31.3	137.7	369.2	349.5	703.4	12.8	203.1	98.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	20.7	188.7	17.3	34.8	142.8	358.9	306.9	658.9	10.9	193.7	77.8	(NA)	(NA)
1972 Census--	321	329	167	20.3	174.0	16.9	34.4	130.4	314.0	276.4	588.6	17.3	200.9	63.8	83	79
1971 ASM----	(NA)	(NA)	(NA)	17.5	145.1	14.2	29.3	105.3	235.0	202.4	442.7	8.3	163.3	47.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	21.3	166.9	17.5	36.2	121.4	275.9	221.1	488.7	12.5	186.3	59.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	25.3	189.1	20.5	40.5	141.1	356.4	261.4	620.6	30.6	203.9	52.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	25.1	177.6	20.5	41.2	132.0	349.6	248.9	596.3	16.1	189.5	55.9	(NA)	(NA)
1967 Census--	352	360	180	26.6	176.7	22.1	45.0	131.2	324.1	233.0	556.3	18.2	179.3	51.7	83	82
1966 ASM----	(NA)	(NA)	(NA)	22.8	149.9	19.4	42.4	116.9	274.5	227.7	498.3	19.5	(NA)	41.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	18.8	114.2	15.9	37.0	87.6	195.1	177.0	369.8	10.5	(NA)	29.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	17.8	105.9	14.9	31.5	81.2	186.5	144.1	329.6	12.7	107.2	25.4	(NA)	(NA)
1963 Census--	386	391	165	17.7	102.9	14.8	30.3	78.4	168.5	134.3	302.7	6.8	97.4	23.3	78	75

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3321, GRAY IRON FOUNDRIES											
1977 Census--	15 464	(NA)	84	2 020	7.21	45	74	(NA)	29 331	52	17.23
1976 ASM----	14 304	25 439	84	2 006	6.68	47	76	52	25 902	55	15.33
1975 ASM----	12 486	23 558	84	1 951	5.96	47	77	55	22 475	55	13.63
1974 ASM----	11 828	18 963	85	2 034	5.45	48	79	49	19 996	59	11.47
1973 ASM----	11 127	16 816	85	2 083	5.06	42	77	53	18 044	61	10.09
1972 Census--	10 024	17 530	85	2 080	4.55	42	78	62	16 307	61	9.18
1971 ASM----	9 125	16 919	85	1 990	4.27	41	77	67	14 674	62	8.65
1970 ASM----	8 180	15 034	85	1 984	3.81	42	79	68	12 661	64	7.44
1969 ASM----	8 211	12 735	86	2 087	3.68	40	76	56	13 606	60	7.53
1968 ASM----	7 738	12 483	86	2 085	3.48	40	76	58	12 700	60	7.04
1967 Census--	6 994	11 321	86	2 031	3.21	40	77	59	11 181	62	6.36
1966 ASM----	6 953	(NA)	86	2 126	3.09	40	76	(NA)	11 701	59	6.33
1965 ASM----	6 833	(NA)	86	2 160	3.00	40	76	(NA)	11 559	59	6.16
1964 ASM----	6 533	7 832	86	2 145	2.88	41	77	43	10 718	60	5.74
1963 Census--	6 060	7 785	86	2 056	2.78	40	77	47	9 697	62	5.45
INDUSTRY 3322, MALLEABLE IRON FOUNDRIES											
1977 Census--	15 003	(NA)	80	1 909	7.24	36	74	(NA)	25 225	59	16.42
1976 ASM----	14 284	19 869	79	1 900	6.83	37	73	50	24 744	57	16.37
1975 ASM----	12 494	18 634	80	1 881	5.95	39	76	56	20 129	62	13.31
1974 ASM----	11 415	14 877	83	1 937	5.55	42	79	48	17 966	63	11.10
1973 ASM----	11 120	13 254	84	2 030	5.15	37	82	53	15 732	70	9.21
1972 Census--	10 422	13 817	83	2 037	4.83	32	79	61	15 226	68	8.99
1971 ASM----	9 088	12 637	83	1 994	4.25	34	81	65	12 623	71	7.60
1970 ASM----	8 147	11 386	82	1 984	3.85	34	80	64	11 743	69	7.20
1969 ASM----	7 966	10 966	83	2 020	3.71	31	76	61	12 271	64	7.31
1968 ASM----	7 844	10 360	84	2 023	3.62	31	74	56	12 560	62	7.38
1967 Census--	7 362	9 417	84	2 009	3.42	32	75	54	11 673	63	6.89
1966 ASM----	7 246	(NA)	85	2 093	3.24	34	77	(NA)	11 166	64	6.25
1965 ASM----	7 127	(NA)	85	2 125	3.16	33	76	(NA)	11 123	64	6.10
1964 ASM----	6 717	7 624	85	2 103	3.03	37	83	52	9 232	72	5.14
1963 Census--	6 367	7 538	84	2 063	2.90	35	79	52	9 174	69	5.27
INDUSTRY 3324, STEEL INVESTMENT FOUNDRIES											
1977 Census--	12 232	(NA)	76	2 037	5.21	35	67	(NA)	25 411	48	16.23
1976 ASM----	11 848	11 121	77	2 000	5.16	37	66	27	25 383	46	16.31
1975 ASM----	10 846	10 115	79	1 987	4.82	35	65	27	23 076	47	14.54
1974 ASM----	9 913	8 151	82	2 017	4.20	35	69	27	20 093	49	12.14
1973 ASM----	8 836	8 991	79	2 000	3.86	35	71	36	16 741	52	10.55
1972 Census--	8 321	11 178	76	2 000	3.68	34	69	47	15 678	53	10.20
INDUSTRY 3325, STEEL FOUNDRIES, N.E.C.											
1977 Census--	14 269	(NA)	80	1 975	6.76	38	71	(NA)	26 290	54	16.48
1976 ASM----	12 905	20 746	81	1 948	6.16	39	71	52	24 375	52	15.43
1975 ASM----	11 972	15 981	82	1 997	5.63	39	71	42	23 327	51	14.19
1974 ASM----	10 946	13 470	83	1 972	5.21	42	76	41	19 592	55	11.93
1973 ASM----	10 075	13 631	82	2 012	4.73	36	77	55	15 417	65	9.26
1972 Census--	9 426	14 858	82	1 961	4.46	34	75	65	15 117	62	9.35

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3361, ALUMINUM FOUNDRIES										
1977 Census--	13 247	(NA)	84	1 951	6.15	49	77	(NA)	24 198	54	14.63
1976 ASM----	12 015	14 054	83	1 948	5.68	48	78	34	21 009	57	12.98
1975 ASM----	11 072	17 064	81	1 871	5.35	48	79	47	18 480	59	12.04
1974 ASM----	9 974	12 271	84	1 885	4.86	50	79	35	17 340	57	10.89
1973 ASM----	9 541	11 213	85	2 006	4.38	45	77	37	16 568	57	9.66
1972 Census--	9 144	11 886	84	1 989	4.19	43	76	42	15 717	58	9.35
1971 ASM----	8 481	11 457	82	2 038	3.78	43	76	44	14 469	58	8.58
1970 ASM----	7 616	10 122	84	1 984	3.48	44	77	44	12 553	60	7.50
1969 ASM----	7 707	9 703	85	2 028	3.47	44	77	41	13 104	58	7.52
1968 ASM----	7 372	8 525	85	2 017	3.32	44	77	38	12 471	59	7.24
1967 Census--	6 922	7 681	85	2 030	3.09	44	78	37	11 429	60	6.55
1966 ASM----	6 714	(NA)	85	2 062	2.94	45	78	(NA)	11 147	60	6.35
1965 ASM----	6 649	(NA)	84	2 065	2.95	47	79	(NA)	10 932	60	6.24
1964 ASM----	6 538	7 885	84	2 103	2.88	46	80	40	10 372	63	5.85
1963 Census--	6 154	7 480	84	2 065	2.74	46	81	42	9 500	64	5.42
	INDUSTRY 3362, BRASS, BRONZE, AND COPPER FOUNDRIES										
1977 Census--	11 777	(NA)	81	1 940	5.37	49	76	(NA)	22 475	52	14.26
1976 ASM----	10 893	14 553	78	1 942	5.12	47	73	35	21 681	50	14.16
1975 ASM----	10 840	14 952	79	1 838	5.30	48	74	36	21 024	51	14.43
1974 ASM----	9 229	10 751	77	1 991	4.36	53	77	27	17 929	51	11.68
1973 ASM----	9 118	11 098	84	1 968	4.09	49	76	33	17 519	52	10.48
1972 Census--	8 415	11 896	84	1 976	3.74	49	77	39	15 383	54	9.21
1971 ASM----	8 134	11 317	80	2 068	3.58	48	79	42	13 487	60	8.10
1970 ASM----	7 401	10 362	82	2 059	3.24	48	76	39	13 593	54	7.95
1969 ASM----	6 813	7 621	83	1 918	3.15	49	76	31	12 536	54	7.81
1968 ASM----	7 099	8 267	83	2 022	3.06	48	76	32	13 155	53	7.75
1967 Census--	6 692	7 223	84	2 026	2.91	48	75	29	12 670	52	7.41
1966 ASM----	6 296	(NA)	84	2 098	2.64	52	77	(NA)	12 117	51	6.79
1965 ASM----	6 245	(NA)	82	2 126	2.61	52	79	(NA)	10 858	57	6.21
1964 ASM----	5 904	7 063	82	2 107	2.55	50	79	34	10 082	58	5.77
1963 Census--	5 647	6 607	83	2 039	2.49	50	80	35	9 418	59	5.52
	INDUSTRY 3369, NONFERROUS FOUNDRIES, N.E.C.										
1977 Census--	11 798	(NA)	82	1 968	5.18	48	73	(NA)	23 928	49	14.80
1976 ASM----	9 430	10 792	81	1 896	4.38	49	75	29	18 524	50	12.03
1975 ASM----	9 921	11 939	78	1 916	4.69	48	74	31	18 746	52	12.39
1974 ASM----	9 436	10 309	83	1 908	4.39	49	76	28	18 741	50	11.79
1973 ASM----	9 115	9 357	83	2 011	4.10	46	75	29	17 338	52	10.31
1972 Census--	8 571	9 896	83	2 035	3.79	46	76	34	15 467	55	9.12
1971 ASM----	8 291	9 331	81	2 063	3.59	45	78	36	13 428	61	8.02
1970 ASM----	7 835	8 746	82	2 068	3.35	45	79	38	12 953	60	7.62
1969 ASM----	7 474	8 059	81	1 975	3.48	42	72	32	14 086	53	8.80
1968 ASM----	7 075	7 549	81	2 009	3.20	41	71	31	13 928	50	8.48
1967 Census--	6 642	6 740	83	2 036	2.91	41	73	32	12 184	54	7.20
1966 ASM----	6 574	(NA)	85	2 185	2.75	45	75	(NA)	12 039	54	6.47
1965 ASM----	6 074	(NA)	84	2 327	2.36	47	78	(NA)	10 377	58	5.27
1964 ASM----	5 949	6 022	83	2 114	2.57	43	75	32	10 477	56	5.92
1963 Census--	5 813	5 502	83	2 047	2.58	44	78	32	9 519	61	5.56

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3321, GRAY IRON FOUNDRIES													
United States	-	**984**	**683**	**138.8**	**2 146.0**	**116.6**	**236.1**	**1 703.2**	**4 070.4**	**3 355.7**	**7 388.7**	**503.1**	**138.4**	**2 257.0**
New England Division:														
Massachusetts	E1	32	19	1.6	19.9	1.4	2.6	15.6	35.4	24.2	59.0	4.3	(NA)	(D)
Rhode Island	-	7	3	0.2	2.0	0.1	0.2	1.4	2.9	1.5	4.6	(D)	(NA)	(D)
Connecticut	-	12	10	1.3	15.4	1.0	2.1	10.8	28.0	20.7	48.8	2.6	0.9	11.8
Middle Atlantic Division:														
New York	-	38	22	2.5	35.2	2.0	4.1	26.7	58.6	76.9	134.1	4.0	2.7	40.6
New Jersey	-	22	13	2.4	31.9	1.9	3.8	24.2	73.9	70.6	144.4	2.3	3.5	54.7
Pennsylvania	-	91	66	8.5	113.6	7.2	13.5	88.5	198.9	208.1	407.9	17.2	7.5	112.8
East North Central Division:														
Ohio	-	95	76	21.3	388.9	18.1	37.8	317.9	802.7	555.9	1 346.5	75.8	19.6	378.8
Indiana	-	56	47	9.3	136.7	7.8	15.2	107.2	258.6	163.7	416.6	23.8	9.3	159.7
Illinois	-	63	49	11.8	205.1	9.9	19.2	160.8	414.3	277.5	690.1	115.5	12.2	186.4
Michigan	-	76	56	24.4	495.2	20.8	45.5	403.7	829.4	841.3	1 666.9	122.7	26.3	519.9
Wisconsin	-	60	50	9.5	131.1	7.8	15.3	99.8	277.8	185.1	461.7	33.5	7.7	117.0
West North Central Division:														
Minnesota	-	27	19	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.3	19.7
Iowa	-	20	13	1.6	20.7	1.3	2.4	15.2	36.6	41.7	77.5	(D)	1.7	28.7
Missouri	-	22	14	2.0	25.4	1.7	3.3	19.5	43.9	34.9	77.5	3.1	1.6	23.0
Nebraska	-	5	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	-	18	12	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	7	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	23	13	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	11	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	17	10	1.2	11.4	1.0	2.0	8.9	22.2	19.9	43.1	2.2	1.4	21.1
South Carolina	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	E1	14	9	1.3	14.5	1.1	2.1	10.5	27.2	16.1	43.1	(D)	1.3	15.3
East South Central Division:														
Kentucky	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	28	18	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	46	34	9.3	120.4	7.6	15.2	92.3	237.9	264.0	491.8	18.9	(NA)	(D)
Mississippi	E4	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	7	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Louisiana	E2	6	3	0.2	2.6	0.2	0.3	2.2	5.8	3.8	9.5	(D)	(NA)	(NA)
Oklahoma	-	19	14	1.6	19.2	1.3	2.6	14.4	27.0	21.4	48.6	4.4	(NA)	(D)
Texas	-	39	23	5.4	63.2	4.7	9.4	49.8	123.6	83.0	205.9	9.4	5.4	78.9
Mountain Division:														
Colorado	E1	9	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Utah	-	7	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	E1	13	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	4.3
Oregon	E1	9	7	0.4	5.9	0.4	0.7	4.7	9.7	6.1	15.8	1.1	0.3	3.4
California	-	56	34	3.8	49.6	3.3	6.4	38.5	100.3	71.6	172.8	4.9	4.2	61.9
INDUSTRY 3322, MALLEABLE IRON FOUNDRIES														
United States	-	**66**	**53**	**18.2**	**273.0**	**14.6**	**27.9**	**202.5**	**459.1**	**265.5**	**721.9**	**28.9**	**22.5**	**342.6**
New England Division:														
Massachusetts	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	6	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	8	8	2.4	29.3	2.0	4.1	22.5	50.2	21.7	71.4	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	6	6	2.6	36.3	2.3	4.0	31.0	44.8	33.4	78.0	(D)	(NA)	(D)
Indiana	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.1	32.7
Michigan	-	7	5	6.2	114.5	4.7	9.3	81.1	217.3	124.8	340.7	13.9	(NA)	(D)
Wisconsin	-	7	7	1.6	25.1	1.3	2.6	17.8	39.7	17.6	57.0	2.6	2.1	31.8
West North Central Division:														
Iowa	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
West Virginia	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3324, STEEL INVESTMENT FOUNDRIES														
United States	-	**92**	**68**	**10.5**	**128.7**	**8.1**	**16.5**	**85.9**	**267.4**	**144.8**	**407.5**	**10.7**	**11.2**	**175.6**
New England Division:														
New Hampshire	-	5	4	1.1	14.1	0.7	1.6	8.8	27.5	7.7	34.9	(D)	(NA)	(D)
Connecticut	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E2	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey	-	4	3	0.8	10.5	0.6	1.2	6.6	22.0	11.9	33.9	(D)	(NA)	(D)
Pennsylvania	-	5	4	0.3	3.2	0.3	0.5	2.5	5.6	3.5	9.1	(D)	(NA)	(D)
East North Central Division:														
Ohio	E1	11	6	0.7	7.8	0.5	1.1	5.6	12.4	6.0	18.1	(D)	(NA)	(D)
Indiana	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	8.4
Michigan	-	11	8	1.7	20.2	1.3	2.4	13.5	50.3	26.8	77.2	0.6	(NA)	(D)
Wisconsin	-	6	6	0.3	4.6	0.3	0.6	2.9	10.1	4.5	14.7	0.5	0.2	3.8
West North Central Division:														
Missouri	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Oregon	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	15	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3325, STEEL FOUNDRIES, N.E.C.														
United States	-	**323**	**229**	**54.8**	**781.5**	**44.2**	**87.3**	**591.0**	**1 439.8**	**882.3**	**2 312.1**	**115.9**	**46.7**	**706.0**
New England Division:														
New Hampshire	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	E1	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	3.4
Connecticut	-	5	3	0.5	7.8	0.4	0.8	5.7	16.3	6.4	22.6	(D)	0.4	6.1
Middle Atlantic Division:														
New York	-	8	7	3.3	50.8	2.8	5.3	41.3	93.3	50.3	143.3	3.6	(NA)	(D)
New Jersey	E1	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	39	28	10.3	160.8	8.1	15.4	119.3	252.4	182.3	436.2	24.1	8.2	104.6
East North Central Division:														
Ohio	-	32	21	6.9	101.6	5.6	11.1	78.8	186.5	94.1	280.9	12.4	6.9	101.3
Indiana	-	8	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.2	43.5
Illinois	-	25	17	4.9	70.5	4.0	8.2	54.1	131.2	87.1	216.3	(D)	4.7	76.0
Michigan	-	27	20	2.3	30.8	1.8	3.5	21.9	59.2	39.0	97.4	1.7	1.6	29.0
Wisconsin	-	19	15	4.8	72.0	3.8	7.9	55.2	145.5	71.8	213.2	9.5	3.7	61.9
West North Central Division:														
Minnesota	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	13	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	E1	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	11	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Louisiana	-	5	4	1.4	15.5	1.1	2.3	11.5	27.6	20.4	47.7	(D)	(NA)	(D)
Oklahoma	-	6	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	20	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Arizona	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Utah	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	13	10	1.4	19.5	1.1	2.1	15.2	36.9	23.6	60.6	3.1	1.0	14.3
Oregon	-	6	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	31	20	2.4	31.9	2.0	3.9	23.9	63.4	46.5	110.8	5.0	2.1	32.4

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3361, ALUMINUM FOUNDRIES														
United States	-	**1 038**	**461**	**52.2**	**691.4**	**44.2**	**86.3**	**531.0**	**1 263.0**	**1 213.4**	**2 459.1**	**121.2**	**45.7**	**718.3**
New England Division:														
New Hampshire	-	9	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	E1	32	9	0.7	8.9	0.6	1.2	6.7	15.7	10.8	26.4	(D)	0.5	7.4
Connecticut	-	22	3	0.7	9.6	0.6	1.2	7.7	15.7	16.0	31.9	0.9	1.2	17.9
Middle Atlantic Division:														
New York	-	50	20	3.0	48.8	2.4	4.9	37.8	78.9	93.8	171.3	(D)	2.8	45.8
New Jersey	E3	27	10	0.8	9.2	0.7	1.3	7.1	16.4	12.7	29.0	0.9	1.0	12.5
Pennsylvania	-	67	32	3.5	45.0	3.1	5.5	35.6	81.8	50.5	131.7	2.9	3.5	56.9
East North Central Division:														
Ohio	-	121	63	8.7	119.4	7.2	14.0	91.1	228.6	200.1	425.5	11.8	8.9	146.6
Indiana	-	36	19	2.6	44.5	2.2	4.4	35.7	85.0	113.8	198.4	(D)	2.4	43.1
Illinois	-	98	44	3.8	45.0	3.3	6.3	32.8	86.8	88.0	173.7	5.5	3.7	58.5
Michigan	-	69	34	4.3	58.9	3.7	7.5	46.4	120.3	111.9	230.8	8.5	3.6	63.6
Wisconsin	-	49	31	4.9	64.3	4.3	8.4	50.4	111.4	112.6	222.5	9.0	3.6	55.6
West North Central Division:														
Minnesota	-	24	18	2.0	28.7	1.8	3.6	22.3	42.4	43.0	84.6	2.1	1.6	28.5
Iowa	E1	22	7	0.8	9.3	0.7	1.2	7.0	14.2	15.6	29.7	(D)	0.7	6.5
Missouri	-	28	11	1.3	14.7	1.1	2.1	10.6	27.7	27.5	55.4	1.7	1.3	18.8
Kansas	-	12	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	E3	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	13	7	0.5	5.5	0.4	0.8	4.3	10.3	10.3	20.7	(D)	(NA)	(D)
South Carolina	-	8	4	0.5	4.9	0.4	0.9	4.3	11.6	9.8	18.8	(D)	(NA)	(D)
Georgia	-	11	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	E1	20	7	0.3	2.8	0.2	0.5	2.1	5.1	3.0	8.1	(D)	0.3	4.2
East South Central Division:														
Kentucky	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	15	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	12	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	9	6	0.5	4.4	0.4	0.9	3.6	9.9	8.3	17.6	0.9	0.3	3.2
Oklahoma	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	46	16	1.5	15.4	1.3	2.7	11.8	25.5	24.7	49.7	1.9	0.5	5.8
Mountain Division:														
Colorado	E2	10	2	0.2	1.4	0.1	0.2	1.1	2.8	2.4	5.2	0.1	0.2	1.4
Pacific Division:														
Washington	-	8	6	0.4	5.7	0.4	0.6	4.4	7.7	9.0	16.3	0.3	0.2	2.2
Oregon	E2	10	2	0.2	2.3	0.2	0.3	1.7	4.2	2.7	6.8	0.2	0.6	9.9
California	E1	162	70	5.9	70.1	4.9	9.5	50.8	137.3	91.1	226.8	5.3	4.6	69.9
INDUSTRY 3362, BRASS, BRONZE, AND COPPER FOUNDRIES														
United States	-	**489**	**180**	**12.6**	**148.3**	**10.2**	**19.8**	**106.7**	**283.0**	**274.1**	**553.3**	**17.9**	**15.4**	**236.9**
New England Division:														
Massachusetts	E3	23	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	6.4
Connecticut	E1	17	6	0.2	2.7	0.2	0.4	1.8	4.9	4.9	9.8	0.4	0.4	3.6
Middle Atlantic Division:														
New York	-	29	15	0.8	9.1	0.7	1.3	6.4	15.5	11.2	26.9	0.5	0.8	9.0
New Jersey	-	18	4	0.4	5.0	0.3	0.6	3.4	10.7	10.3	20.4	1.5	0.6	10.1
Pennsylvania	-	42	19	2.2	25.9	1.7	3.1	17.9	39.7	42.7	82.0	2.3	3.4	47.4
East North Central Division:														
Ohio	E1	39	17	0.9	10.4	0.7	1.5	8.0	23.7	24.5	47.2	1.0	1.2	18.8
Indiana	-	17	8	0.5	6.0	0.4	0.8	4.3	12.8	12.3	25.0	0.7	(NA)	(D)
Illinois	-	49	18	1.3	16.9	1.1	2.1	12.0	29.4	29.6	58.6	1.9	1.2	19.7
Michigan	-	29	14	0.9	12.5	0.8	1.4	9.7	24.0	23.9	47.5	1.7	1.1	21.4
Wisconsin	-	11	5	0.4	4.5	0.3	0.6	3.0	10.2	8.1	18.1	0.4	(NA)	(D)
West North Central Division:														
Missouri	-	10	4	0.3	3.1	0.2	0.4	2.1	6.3	4.9	11.1	0.4	0.3	5.7
Nebraska	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
West Virginia	-	8	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Alabama	E1	6	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	8	4	0.2	2.0	0.2	0.3	1.6	2.8	3.6	6.3	(D)	(NA)	(NA)
Texas	-	21	5	0.4	3.5	0.3	0.6	2.6	9.9	9.3	19.4	0.4	0.4	4.3
Pacific Division:														
California	-	59	23	1.6	18.9	1.2	2.6	13.1	30.9	34.1	64.9	2.3	(NA)	(D)

See footnotes at end of table

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3369, NONFERROUS FOUNDRIES, N.E.C.														
United States	-	**365**	**164**	**17.3**	**204.1**	**14.2**	**28.0**	**144.9**	**413.9**	**396.1**	**813.7**	**24.7**	**20.3**	**314.0**
New England Division:														
Rhode Island	E1	14	2	0.2	1.7	0.1	0.3	1.2	3.9	6.4	10.3	0.1	(NA)	(NA)
Connecticut	-	16	8	0.5	6.6	0.4	0.9	4.1	12.4	13.2	25.6	0.6	0.3	5.8
Middle Atlantic Division:														
New York	-	40	19	2.1	24.6	1.7	3.3	16.5	47.0	35.3	84.1	(D)	3.4	47.6
New Jersey	-	21	11	0.8	8.8	0.7	1.3	6.5	15.7	16.4	31.9	1.2	0.8	11.0
Pennsylvania	E2	10	3	0.2	2.0	0.2	0.4	1.6	3.1	2.5	5.6	0.1	0.3	2.5
East North Central Division:														
Ohio	-	31	17	2.4	30.8	1.9	3.7	21.0	66.5	52.8	120.8	2.0	2.8	54.2
Indiana	-	6	2	1.1	13.9	0.9	1.8	11.1	21.8	28.5	50.9	3.2	(NA)	(D)
Illinois	-	43	15	1.8	22.5	1.5	2.9	17.1	42.5	48.9	93.6	3.7	2.1	31.9
Michigan	-	46	31	3.4	42.2	2.8	5.8	30.0	90.3	95.8	185.0	4.3	4.1	71.1
Wisconsin	E1	8	1	0.2	2.0	0.1	0.3	1.4	3.7	3.5	7.2	(Z)	(NA)	(D)
West North Central Division:														
Iowa	-	7	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	7	3	0.4	5.0	0.3	0.7	3.4	9.1	8.0	17.1	0.5	0.6	8.7
Kansas	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Florida	-	6	4	0.3	2.7	0.3	0.5	1.9	5.6	4.7	10.0	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	8	5	0.5	4.7	0.4	0.8	3.4	9.7	12.7	22.3	1.1	(NA)	(D)
Pacific Division:														
California	-	44	22	1.5	16.7	1.3	2.5	12.2	38.0	33.7	71.3	1.9	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Gray iron foundries (SIC 3321)	Malleable iron foundries (SIC 3322)	Steel investment foundries (SIC 3324)	Steel foundries, n.e.c. (SIC 3325)	Aluminum foundries, n.e.c. (SIC 3361)	Brass, bronze, and copper foundries (SIC 3362)	Nonferrous foundries, n.e.c. (SIC 3369)
Primary product specialization ratio[1]	percent	96	86	93	87	87	85	85
Coverage ratio[2]	do	88	93	86	91	92	74	77
All establishments	number	984	66	92	323	1 038	489	365
With 1 to 19 employees	do	301	13	24	94	577	309	201
With 20 to 99 employees	do	389	14	39	94	321	157	114
With 100 employees or more	do	294	39	29	135	140	23	50
All employees, average for year	1,000	138.8	18.2	10.5	54.8	52.2	12.6	17.3
Payroll for year, all employees	mil. dol.	2 146.0	273.0	128.7	781.5	691.4	148.3	204.1
Production workers:								
Average for year	1,000	116.8	14.6	8.1	44.2	44.2	10.2	14.2
March	do	115.4	14.2	7.7	42.9	42.8	9.9	14.1
May	do	116.7	14.7	7.9	44.1	43.8	10.1	14.1
August	do	115.7	14.8	8.2	44.3	44.2	10.4	14.2
November	do	119.5	14.8	8.5	45.4	45.9	10.4	14.4
Hours	millions	236.1	27.9	16.5	87.3	86.3	19.8	28.0
January to March	do	56.9	7.0	4.0	21.2	20.8	4.8	6.8
April to June	do	60.4	7.1	4.1	22.3	21.7	5.0	7.0
July to September	do	58.6	7.0	4.0	21.3	21.1	4.9	7.0
October to December	do	60.3	6.8	4.4	22.5	22.6	5.2	7.1
Wages	mil. dol.	1 703.2	202.5	85.9	591.0	531.0	106.7	144.9
Cost of materials, etc.	do	3 355.7	265.5	144.8	882.3	1 213.4	274.1	396.1
Materials, parts, containers, etc., consumed	do	2 671.6	197.5	118.3	714.3	1 052.8	240.7	323.4
Resales	do	114.2	0.5	0.5	16.7	21.5	9.4	7.5
Fuels consumed	do	342.2	26.4	4.2	45.9	45.2	5.9	10.8
Purchased electric energy	do	206.2	36.4	7.6	78.5	35.8	9.5	12.6
Contract work	do	21.5	4.7	14.2	27.0	58.1	8.6	41.9
Value of shipments, including resales	do	7 388.7	721.9	407.5	2 312.1	2 459.1	553.3	813.7
Value of resales	do	135.3	1.4	0.5	20.9	25.1	8.8	12.7
Value added by manufacture	do	4 070.4	459.1	267.4	1 439.8	1 263.0	283.0	413.9
Manufacturers' inventories:								
Beginning of year	do	596.2	41.1	57.0	332.8	174.7	55.6	86.6
Finished products	do	222.9	4.0	3.5	79.7	31.4	13.1	17.8
Work in process	do	142.5	24.2	34.1	149.8	63.7	16.6	33.1
Materials, supplies, fuel, etc.	do	230.8	12.9	19.4	103.3	79.7	25.9	35.7
End of year	do	654.4	43.6	65.6	341.3	205.4	59.2	84.7
Finished products	do	232.5	3.1	2.9	90.8	36.9	14.8	16.2
Work in process	do	170.4	27.9	39.4	148.7	75.3	18.7	31.0
Materials, supplies, fuel, etc.	do	251.5	12.6	23.3	101.8	93.1	25.7	37.5
Capital expenditures for plant and equipment	do	521.3	30.6	11.5	120.4	128.3	18.6	28.7
New capital expenditures	do	503.1	28.9	10.7	115.9	121.2	17.9	24.7
New buildings and other structures	do	102.3	6.5	1.6	19.0	23.2	3.7	5.1
New machinery and equipment	do	400.8	22.4	9.1	96.9	98.0	14.2	19.6
Used capital expenditures	do	18.1	1.8	0.8	4.5	7.2	0.7	4.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Gray iron foundries (SIC 3321)		Malleable iron foundries (SIC 3322)		Steel investment foundries (SIC 3324)		Steel foundries, n.e.c. (SIC 3325)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	14.8	4	2.0	2	(1.9)	51	5.7	13
Response coverage ratio[2] (percent)	60	(X)	68	(X)	59	(X)	79	(X)
Machinery	175.7	5	(16.0)	25	(5.9)	16	32.8	11
Response coverage ratio[2] (percent)	56	(X)	76	(X)	69	(X)	73	(X)
Cost of purchased communication services	10.0	7	(0.8)	20	(1.4)	23	3.7	11
Response coverage ratio[2] (percent)	.64	(X)	.82	(X)	75	(X)	75	(X)
Rental payments	(27.4)	21	2.4	7	(2.2)	28	10.8	6
Buildings and other structures	(7.8)	34	(0.2)	48	(1.3)	37	(2.9)	18
Machinery and equipment	(19.6)	16	2.2	6	(0.9)	20	7.9	4
Supplemental labor costs	549.0	1	72.7	1	25.6	6	202.1	1
Legal costs	193.0	2	24.7	2	11.9	9	80.4	2
Voluntary costs	356.0	2	48.0	2	13.7	7	121.7	2
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	845.5	2	61.2	5	32.6	13	258.7	2
New capital expenditures	100.8	3	7.1	11	(1.7)	22	16.7	9
Used capital expenditures	4.3	3	(2.0)	79	(0.4)	23	(1.9)	48
Retirements	9.0	10	(0.3)	24	2.5	5	(10.2)	18
End of year	941.7	2	70.0	4	32.2	13	267.1	2
Machinery and equipment:								
Beginning of year	2,657.3	1	265.1	5	(62.4)	15	731.1	2
New capital expenditures	399.2	2	22.6	3	8.8	11	92.6	4
Automobiles, trucks, etc., for highway use[3]	(6.2)	(A)	(D)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(3.2)	(A)	(D)	(A)	(Z)	(A)	(D)	(A)
All other[3]	351.2	6	(20.4)	98	(8.2)	(A)	(90.5)	22
New machinery and equipment, n.s.k.[4]	(38.6)	52	(0.6)	(A)	(D)	(A)	(D)	(A)
Used capital expenditures	14.3	9	(2.4)	67	(0.4)	72	(2.5)	17
Retirements	57.0	6	8.5	7	3.0	9	24.6	11
End of year	3,013.8	1	281.6	5	68.5	13	801.5	2
Total gross value of depreciable assets:								
Beginning of year	3,502.9	1	326.4	5	95.0	14	989.8	2
New capital expenditures	500.1	2	29.7	3	10.5	12	109.3	4
Used capital expenditures	18.6	7	(4.3)	72	(0.7)	47	(4.4)	29
Retirements	65.9	7	8.9	6	5.5	7	34.8	13
End of year	3,955.6	1	351.6	4	100.6	12	1,068.7	2
Depreciation charges during 1977	281.7	2	22.3	4	7.2	12	70.5	2
Buildings and other structures	32.4	4	2.6	3	1.6	11	12.2	3
Machinery and equipment	249.2	2	19.7	4	5.6	12	58.3	2

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Aluminum foundries, n.e.c. (SIC 3361)		Brass, bronze and copper foundries (SIC 3362)		Nonferrous foundries, n.e.c. (SIC 3369)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	4.2	12	(0.6)	34	1.1	14
Response coverage ratio[2] (percent)	.66	(X)	.39	(X)	.46	(X)
Machinery	133.9	13	(2.5)	23	8.4	10
Response coverage ratio[2] (percent)	59	(X)	38	(X)	.40	(X)
Cost of purchased communication services	4.4	12	(0.8)	22	(1.2)	15
Response coverage ratio[2] (percent)	69	(X)	48	(X)	43	(X)
Rental payments	11.4	10	(2.9)	18	5.2	12
Buildings and other structures	(7.1)	15	(2.1)	20	(3.2)	19
Machinery and equipment	4.3	11	(0.8)	23	2.0	8
Supplemental labor costs	149.6	2	26.1	5	46.9	2
Legal costs	60.9	3	13.5	4	20.9	3
Voluntary costs	88.7	3	12.6	7	26.0	4
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	196.6	4	45.9	12	55.7	7
New capital expenditures	25.8	13	(5.3)	46	(4.6)	29
Used capital expenditures	(5.4)	45	-	(X)	1.0	1
Retirements	(8.2)	34	1.4	8	(1.6)	93
End of year	219.7	4	49.8	11	59.7	7
Machinery and equipment:						
Beginning of year	529.1	3	109.3	8	166.7	4
New capital expenditures	102.7	6	(14.8)	22	13.8	11
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	-	(X)	(D)	(A)
All other[3]	(93.7)	21	(D)	(A)	(D)	(A)
New machinery and equipment, n.s.k.[4]	(5.1)	(A)	(7.5)	(A)	(2.4)	(A)
Used capital expenditures	(8.1)	46	(0.6)	53	1.4	1
Retirements	(34.3)	17	4.4	6	8.7	14
End of year	605.7	3	120.3	7	173.2	5
Total gross value of depreciable assets:						
Beginning of year	725.9	3	155.3	9	222.4	5
New capital expenditures	128.5	6	(20.1)	24	18.4	10
Used capital expenditures	(13.5)	33	(0.6)	52	2.3	1
Retirements	(42.4)	20	5.8	6	(10.3)	25
End of year	825.5	2	170.2	7	232.9	5
Depreciation charges during 1977	63.0	11	10.9	8	16.3	5
Buildings and other structures	(12.2)	21	2.1	13	2.7	11
Machinery and equipment	50.7	9	8.8	8	13.6	5

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3321, GRAY IRON FOUNDRIES												
Total	-	**984**	**138.8**	**2 146.0**	**116.8**	**236.1**	**1 703.2**	**4 070.4**	**3 355.7**	**7 388.7**	**503.1**	**654.4**
Establishments with an average of—												
1 to 4 employees	E9	134	0.2	3.3	0.2	0.4	2.7	5.8	5.3	11.2	0.7	1.0
5 to 9 employees	E8	62	0.4	5.6	0.4	0.7	4.5	8.9	7.9	16.8	1.0	1.5
10 to 19 employees	E7	105	1.4	20.4	1.2	2.4	16.2	32.5	26.8	59.4	3.4	5.0
20 to 49 employees	E1	208	7.1	85.2	6.0	11.5	64.1	154.9	104.2	257.1	13.5	20.2
50 to 99 employees	-	181	13.1	156.1	11.0	21.3	119.0	296.1	207.1	500.1	31.8	44.5
100 to 249 employees	-	177	27.4	342.9	23.1	44.6	262.8	625.9	507.6	1 126.9	52.2	99.2
250 to 499 employees	-	73	24.8	341.1	20.4	40.0	260.6	676.1	676.5	1 350.9	52.7	170.3
500 to 999 employees	-	25	16.0	231.8	13.4	26.9	183.0	486.9	375.4	861.7	47.5	68.6
1,000 to 2,499 employees	-	11	16.0	273.9	13.7	28.6	225.9	468.7	378.4	842.0	45.6	72.9
2,500 employees or more	-	8	32.3	685.5	27.5	59.6	564.4	1 314.6	1 066.5	2 362.6	254.7	171.1
Covered by administrative records[2]	E0	250	1.7	24.8	1.5	2.9	19.7	38.6	34.8	73.4	4.5	6.6
INDUSTRY 3322, MALLEABLE IRON FOUNDRIES												
Total	-	**66**	**18.2**	**273.0**	**14.6**	**27.9**	**202.5**	**459.1**	**265.5**	**721.9**	**28.9**	**43.6**
Establishments with an average of—												
1 to 4 employees	E0	7	(Z)	0.1	(Z)	(Z)	0.1	0.3	0.2	0.5	(Z)	(Z)
5 to 9 employees	E8	4	(0.1)	(0.7)	(Z)	(0.1)	(0.5)	(1.3)	(0.8)	(2.2)	(0.1)	(0.1)
10 to 19 employees	E0	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	7	0.2	3.0	0.2	0.4	2.3	6.4	4.7	10.9	0.5	1.3
50 to 99 employees	-	7	0.5	6.4	0.4	0.8	4.8	8.0	6.5	14.7	0.7	1.0
100 to 249 employees	-	22	3.8	49.1	3.1	5.9	36.6	87.0	43.4	130.5	4.3	10.5
250 to 499 employees	-	8	2.7	32.2	2.3	4.6	24.8	48.9	24.0	73.0	23.3	5.5
500 to 999 employees	-	4	2.8	41.6	2.4	4.3	34.5	55.4	36.1	91.1	(D)	5.1
1,000 to 2,499 employees	-	4	(8.1)	(139.9)	(6.2)	(11.9)	(99.0)	(251.6)	(149.8)	(398.9)	(D)	(20.1)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	12	0.1	0.8	(Z)	0.1	0.6	1.5	0.9	2.4	0.1	0.1
INDUSTRY 3324, STEEL INVESTMENT FOUNDRIES												
Total	-	**92**	**10.5**	**128.7**	**8.1**	**16.5**	**85.9**	**267.4**	**144.8**	**407.5**	**10.7**	**65.6**
Establishments with an average of—												
1 to 4 employees	E4	6	(Z)	0.1	(Z)	(Z)	0.1	0.2	0.1	0.3	(Z)	(Z)
5 to 9 employees	E0	3	(Z)	0.3	(Z)	(Z)	0.2	0.4	0.2	0.6	(Z)	0.1
10 to 19 employees	E4	15	0.2	2.3	0.2	0.3	1.5	4.5	2.4	7.0	0.1	1.6
20 to 49 employees	E1	20	0.6	7.7	0.5	1.0	4.9	15.4	7.6	23.0	0.8	2.1
50 to 99 employees	-	19	1.4	15.2	1.1	2.3	11.0	28.4	16.7	44.8	0.9	5.4
100 to 249 employees	-	21	(3.7)	(45.3)	(2.9)	(6.3)	(31.3)	(90.4)	(42.7)	(131.4)	(5.0)	(15.1)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	5	(4.6)	(57.8)	(3.3)	(6.4)	(36.9)	(128.0)	(75.0)	(200.5)	(3.9)	(41.3)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	16	0.1	1.6	0.1	0.2	1.1	3.0	1.5	4.5	0.1	0.6
INDUSTRY 3325, STEEL FOUNDRIES, N.E.C.												
Total	-	**323**	**54.8**	**781.5**	**44.2**	**87.3**	**591.0**	**1 439.8**	**882.3**	**2 312.1**	**115.9**	**341.3**
Establishments with an average of—												
1 to 4 employees	E8	42	0.1	0.9	0.1	0.1	0.7	1.9	1.2	3.1	0.2	0.4
5 to 9 employees	E6	25	0.2	2.3	0.1	0.3	1.7	4.3	2.7	7.0	0.3	0.8
10 to 19 employees	E6	27	0.4	4.8	0.3	0.6	3.5	10.5	7.0	17.5	0.8	1.9
20 to 49 employees	E2	57	1.8	24.8	1.5	2.9	17.4	45.5	32.1	77.5	5.6	8.2
50 to 99 employees	-	37	2.7	32.2	2.2	4.4	24.0	65.6	52.9	116.7	16.1	15.2
100 to 249 employees	-	70	12.0	164.3	9.8	19.4	124.0	307.3	203.8	513.3	22.4	52.0
250 to 499 employees	-	36	13.0	183.7	10.6	20.8	138.1	347.4	201.3	542.5	25.0	67.1
500 to 999 employees	-	22	14.9	216.7	11.9	23.9	163.4	380.8	228.4	605.7	30.7	90.7
1,000 to 2,499 employees	-	7	9.7	151.7	7.7	14.9	118.1	276.4	153.0	428.7	14.7	105.0
Covered by administrative records[2]	E0	79	0.7	8.8	0.6	1.0	6.5	17.4	11.2	28.5	1.6	3.5
INDUSTRY 3361, ALUMINUM FOUNDRIES												
Total	-	**1 038**	**52.2**	**691.4**	**44.2**	**86.3**	**531.0**	**1 263.0**	**1 213.4**	**2 459.1**	**121.2**	**205.4**
Establishments with an average of—												
1 to 4 employees	E9	270	0.5	6.0	0.5	0.8	4.6	11.1	10.4	21.5	2.5	1.8
5 to 9 employees	E7	142	1.0	12.2	0.9	1.6	9.2	19.6	19.6	39.2	2.3	3.4
10 to 19 employees	E2	165	2.3	25.6	1.9	3.5	19.1	46.0	33.2	78.8	2.7	5.7
20 to 49 employees	E1	221	6.9	77.7	5.9	11.1	57.4	134.9	117.6	251.7	7.2	18.0
50 to 99 employees	-	100	7.1	81.2	5.9	11.5	61.5	156.0	137.8	291.0	10.8	27.5
100 to 249 employees	-	96	14.3	174.7	12.1	24.4	132.0	332.5	316.3	644.6	25.4	49.8
250 to 499 employees	-	34	11.0	151.7	9.1	17.5	114.2	258.1	235.0	491.5	9.4	49.9
500 to 999 employees	-	7	(9.2)	(162.4)	(7.9)	(15.8)	(133.0)	(304.8)	(343.3)	(640.9)	(60.8)	(49.2)
1,000 to 2,499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	381	1.5	18.0	1.4	2.5	13.7	30.2	28.0	58.2	2.0	4.9
INDUSTRY 3362, BRASS, BRONZE, AND COPPER FOUNDRIES												
Total	-	**489**	**12.6**	**148.3**	**10.2**	**19.8**	**106.7**	**283.0**	**274.1**	**553.3**	**17.9**	**59.2**
Establishments with an average of—												
1 to 4 employees	E8	117	0.2	2.3	0.2	0.3	1.7	4.0	3.8	8.2	0.2	0.9
5 to 9 employees	E4	82	0.5	6.2	0.4	0.9	4.5	10.5	9.5	19.9	0.5	2.4
10 to 19 employees	-	110	1.5	17.9	1.3	2.4	12.6	31.8	30.6	62.1	1.8	5.3
20 to 49 employees	-	113	3.5	39.8	2.9	5.7	29.5	77.2	79.1	155.6	4.1	15.2
50 to 99 employees	-	44	3.0	34.5	2.4	4.9	24.7	66.6	66.3	130.6	6.9	16.4
100 to 249 employees	-	20	(3.9)	(47.7)	(3.0)	(5.6)	(33.6)	(84.7)	84.7	(176.8)	(4.4)	(19.0)
250 to 499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	153	0.6	5.9	0.5	0.9	4.3	9.9	9.1	19.1	0.6	2.2

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3369, NONFERROUS FOUNDRIES, N.E.C.												
Total	-	**365**	**17.3**	**204.1**	**14.2**	**28.0**	**144.9**	**413.9**	**396.1**	**813.7**	**24.7**	**84.7**
Establishments with an average of—												
1 to 4 employees	E9	98	0.2	1.6	0.2	0.3	1.1	3.0	3.4	6.5	0.2	0.7
5 to 9 employees	E4	47	0.3	3.7	0.3	0.6	2.6	9.0	11.5	20.6	0.5	1.9
10 to 19 employees	E1	56	0.7	8.0	0.6	1.1	5.3	16.5	17.2	33.4	1.5	2.7
20 to 49 employees	-	68	2.2	23.8	1.8	3.4	15.8	45.9	44.9	90.5	2.7	8.5
50 to 99 employees	-	46	3.3	37.7	2.7	5.4	26.2	79.3	77.3	156.3	4.2	13.5
100 to 249 employees	-	40	5.8	65.0	4.7	9.4	46.2	139.7	128.1	265.4	8.4	29.0
250 to 499 employees	-	8	(4.8)	(64.3)	(3.9)	(7.8)	(47.7)	(120.3)	(113.7)	241.0	(7.2)	(40.5)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	132	0.5	5.3	0.5	0.9	3.8	9.9	11.0	20.9	0.5	2.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3321	**Gray iron foundries:**										
	Entire industry	984	138.8	2 146.0	116.8	236.1	1 703.2	4 070.4	3 355.7	7 388.7	503.1
	Establishments with 75 percent specialization or more	922	127.3	1 986.0	107.7	218.1	1 585.9	3 771.9	3 075.9	6 819.1	476.2
33216	Molds and stools for heavy steel ingots:										
	Establishments with this product class primary	15	3.1	55.7	2.5	4.8	41.0	127.0	268.3	396.3	9.4
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33217	Cast iron pressure pipe and fittings, gray iron:										
	Establishments with this product class primary	19	2.3	23.5	2.0	3.8	18.1	51.9	43.0	93.1	2.3
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33218	Cast iron soil pipe and fittings, gray iron:										
	Establishments with this product class primary	13	6.3	74.7	5.2	10.0	58.8	147.6	124.1	272.1	9.9
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33219	Other gray iron castings, n.e.c.:										
	Establishments with this product class primary	509	95.9	1 509.4	81.1	164.2	1 201.1	2 778.4	2 109.1	4 862.7	359.8
	Establishments with 75 percent specialization or more in class	410	70.5	1 111.2	59.9	120.3	886.4	2 051.6	1 402.3	3 434.4	289.2
3321A	Cast iron pressure pipe and fittings, ductile:										
	Establishments with this product class primary	19	8.5	127.0	6.7	13.7	95.4	305.9	327.1	628.8	21.3
	Establishments with 75 percent specialization or more in class	15	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3321B	Other ductile iron castings, n.e.c.:										
	Establishments with this product class primary	63	17.9	290.9	15.3	31.8	238.2	551.3	392.9	937.1	81.6
	Establishments with 75 percent specialization or more in class	31	4.9	68.2	4.1	8.3	51.2	135.4	92.9	227.2	21.4
3322	**Malleable iron foundries:**										
	Entire industry	66	18.2	273.0	14.6	27.9	202.5	459.1	265.5	721.9	28.9
	Establishments with 75 percent specialization or more	54	12.3	190.6	9.9	19.3	141.8	333.3	174.9	508.6	19.2
33221	Standard malleable iron castings:										
	Establishments with this product class primary	48	13.3	181.3	10.8	20.5	133.8	288.5	174.7	460.8	20.7
	Establishments with 75 percent specialization or more in class	33	6.6	85.9	5.5	10.6	67.5	134.6	73.3	208.2	5.9
33222	Pearlitic malleable iron castings:										
	Establishments with this product class primary	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3324	**Steel investment foundries:**										
	Entire industry	92	10.5	128.7	8.1	16.5	85.9	267.4	144.8	407.5	10.7
	Establishments with 75 percent specialization or more	81	9.3	112.3	7.1	14.2	75.0	235.2	127.0	358.5	10.0
3325	**Steel foundries, n.e.c.:**										
	Entire industry	323	54.8	781.5	44.2	87.3	591.0	1 439.8	882.3	2 312.1	115.9
	Establishments with 75 percent specialization or more	290	46.2	650.7	37.6	74.1	498.5	1 200.6	712.7	1 906.8	101.6
33252	Carbon steel castings, except investment:										
	Establishments with this product class primary	103	33.9	485.5	27.9	55.2	377.5	871.4	534.2	1 395.3	75.3
	Establishments with 75 percent specialization or more in class	76	22.2	308.5	18.6	37.3	243.0	581.9	349.1	922.9	52.5
33254	High alloy steel castings, except investment:										
	Establishments with this product class primary	61	7.7	102.6	6.1	12.1	74.3	194.7	131.6	325.2	13.4
	Establishments with 75 percent specialization or more in class	43	5.6	74.1	4.4	8.8	53.9	138.1	97.9	235.0	9.8
33255	Other alloy steel castings, except investment:										
	Establishments with this product class primary	41	10.8	163.1	8.4	16.5	117.7	316.4	182.5	499.6	22.1
	Establishments with 75 percent specialization or more in class	22	5.6	87.6	4.4	8.7	64.3	148.2	96.2	244.8	12.7
3361	**Aluminum foundries:**										
	Entire industry	1 038	52.2	691.4	44.2	86.3	531.0	1 263.0	1 213.4	2 459.1	121.2
	Establishments with 75 percent specialization or more	881	39.5	529.7	33.5	65.3	408.2	953.1	965.4	1 908.9	100.9
33611	Aluminum and aluminum-base alloy die castings:										
	Establishments with this product class primary	182	22.9	304.7	19.6	38.3	237.4	583.6	583.7	1 155.0	51.3
	Establishments with 75 percent specialization or more in class	121	14.6	185.2	12.6	24.2	143.4	342.6	356.2	691.4	24.2
33612	Other aluminum and aluminum-base alloy castings:										
	Establishments with this product class primary	361	25.3	340.4	21.1	41.5	258.3	599.2	556.7	1 151.2	63.1
	Establishments with 75 percent specialization or more in class	260	16.2	198.5	13.4	25.9	148.3	365.2	296.3	660.5	19.0
3362	**Brass, bronze, and copper foundries:**										
	Entire industry	489	12.6	148.3	10.2	19.8	106.7	283.0	274.1	553.3	17.9
	Establishments with 75 percent specialization or more	396	9.0	102.2	7.2	14.1	72.3	194.9	197.3	389.8	13.9
3369	**Nonferrous foundries, n.e.c.:**										
	Entire industry	365	17.3	204.1	14.2	28.0	144.9	413.9	396.1	813.7	24.7
	Establishments with 75 percent specialization or more	320	13.8	163.0	11.4	22.1	115.9	329.0	323.4	656.3	16.5
33691	Zinc and zinc-base alloy castings:										
	Establishments with this product class primary	136	12.2	142.3	10.2	20.2	103.2	291.8	292.1	586.7	18.2
	Establishments with 75 percent specialization or more in class	108	9.6	111.3	8.0	15.7	80.9	224.1	232.6	459.9	11.7
33692	Magnesium and magnesium-base alloy castings:										
	Establishments with this product class primary	26	1.7	21.8	1.4	2.7	15.7	38.9	29.5	68.5	2.2
	Establishments with 75 percent specialization or more in class	16	0.9	12.3	0.7	1.5	9.1	21.9	15.9	37.8	0.4
33693	Other nonferrous castings:										
	Establishments with this product class primary	37	2.3	29.0	1.7	3.3	18.3	63.3	52.0	116.2	2.7
	Establishments with 75 percent specialization or more in class	32	2.1	27.7	1.6	3.1	17.4	61.2	50.1	112.1	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3321	Gray iron foundries	1977	7,388.7	6,929.2	303.8	155.7	96	7,835.2	6,929.2	906.0	88
		1972	3,875.3	3,507.1	232.4	135.8	94	4,033.8	3,507.1	526.7	87
		1967	2,637.8	2,365.2	180.4	92.2	93	2,740.4	2,365.2	375.2	86
3322	Malleable iron foundries	1977	721.9	620.1	99.6	2.2	86	669.5	620.1	49.4	93
		1972	507.9	439.0	65.2	3.7	87	484.8	439.0	45.8	91
		1967	438.3	370.5	65.2	2.6	85	417.2	370.5	46.7	89
3324	Steel investment foundries	1977	407.5	375.4	30.0	2.1	93	434.1	375.4	58.7	86
		1972	262.2	224.5	35.4	2.3	86	237.7	224.5	13.2	94
		1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3325	Steel foundries, n.e.c.	1977	2,312.1	2,011.3	257.7	43.1	89	2,205.8	2,011.3	194.4	91
		1972	1,067.4	922.0	116.3	29.1	89	1,050.3	922.0	128.3	88
		1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3361	Aluminum foundries	1977	2,459.1	2,103.1	321.3	34.7	87	2,294.2	2,103.1	191.1	92
		1972	1,269.9	1,047.4	205.8	16.7	84	1,172.3	1,047.4	124.9	89
		1967	920.5	753.4	149.4	17.7	83	885.4	753.4	132.0	85
3362	Brass, bronze, and copper foundries	1977	553.3	456.4	82.3	14.6	85	615.6	456.4	159.2	74
		1972	465.3	377.0	73.0	15.3	84	462.9	377.0	85.9	81
		1967	445.2	354.9	74.9	15.4	83	432.3	354.9	77.4	82
3369	Nonferrous foundries, n.e.c.	1977	813.7	680.4	118.4	14.9	85	878.1	680.4	197.7	77
		1972	588.6	473.8	100.0	14.8	83	603.5	473.8	129.7	79
		1967	556.3	452.8	94.4	9.1	83	551.3	452.8	98.5	82

(NA) Not available. n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Gray iron foundries (SIC 3321)	Malleable iron foundries (SIC 3322)	Steel investment foundries (SIC 3324)	Steel foundries, n.e.c. (SIC 3325)	Aluminum foundries (SIC 3361)	Brass, bronze, and copper foundries (SIC 3362)	Nonferrous foundries, n.e.c. (SIC 3369)	Other industries
	Total	(X)	7,388.7	721.9	407.5	2,312.1	2,459.1	553.3	813.7	(X)
	Primary products	(X)	6,929.2	620.1	375.4	2,011.3	2,103.1	456.4	680.4	(X)
	Secondary products	(X)	303.8	99.6	30.0	257.7	321.3	82.3	118.4	(X)
	Miscellaneous receipts	(X)	155.6	2.2	2.2	43.1	34.8	14.6	14.8	(X)
3321-	Gray iron castings	7,835.2	6,929.2	57.8	(D)	37.5	13.5	4.9	(D)	792.0
33216	Molds and stools for heavy steel ingots	551.4	390.0	-	-	(D)	-	-	-	(D)
33217	Cast iron pressure pipe and fittings, gray iron	177.7	160.6	(D)	-	-	-	(D)	-	(D)
33218	Cast iron soil pipe and fittings, gray iron	200.3	196.2	-	-	-	(D)	-	-	(D)
33219	Other gray iron castings, n.e.c.	5,081.9	4,477.8	(D)	-	(D)	(D)	(D)	(D)	558.1
3321A	Cast iron pressure pipe and fittings, ductile	497.6	494.4	(D)	-	-	-	-	-	(D)
3321B	Other ductile iron castings, n.e.c.	1,125.6	1,029.6	44.7	(D)	(D)	(D)	(D)	(D)	(D)
33210	Gray iron castings, n.s.k.	200.8	180.8	.7	-	.4	1.1	-	.3	17.6
3322-	Malleable iron castings	669.5	24.0	620.1	-	(D)	-	-	-	(D)
33221	Standard malleable iron castings	453.0	(D)	423.0	-	(D)	-	-	-	18.5
33222	Pearlitic malleable iron castings	208.7	(D)	190.6	-	(D)	-	-	-	(D)
33220	Malleable iron castings, n.s.k.	7.8	-	6.6	-	-	-	-	-	1.2
33240	Steel investment castings	434.1	(D)	-	375.4	28.9	(D)	4.3	-	15.9
3325-	Steel castings, n.e.c.	2,205.8	47.3	(D)	(D)	2,011.3	(D)	8.2	-	122.3
33252	Carbon steel castings, except investment	1,250.9	27.1	(D)	-	1,137.1	-	(D)	-	76.8
33254	High alloy steel castings, except investment	367.0	16.6	(D)	(D)	330.7	(D)	(D)	-	11.6
33255	Other alloy steel castings, except investment	521.0	3.7	(D)	-	483.0	(D)	(D)	-	27.9
33250	Steel castings, n.e.c., n.s.k.	66.9	-	-	-	60.6	.3	-	-	6.0
3361-	Aluminum castings	2,294.2	14.5	(D)	10.2	(D)	2,103.1	46.7	67.4	48.6
33611	Aluminum and aluminum-base alloy die castings	1,086.8	-	-	-	-	992.5	8.8	61.9	23.6
33612	Other aluminum and aluminum-base alloy castings	1,055.0	14.4	(D)	10.2	(D)	959.6	37.8	5.4	23.8
33610	Aluminum and aluminum base alloy castings, n.s.k.	152.5	.1	-	-	-	151.0	.1	-	1.3
33620	Copper and copper-base alloy castings	615.6	17.3	(D)	5.8	34.4	37.0	456.4	(D)	63.1
3369-	Nonferrous castings, n.e.c.	878.1	6.7	-	(D)	(D)	158.8	2.1	680.4	29.1
33691	Zinc and zinc-base alloy castings	609.9	(D)	-	-	-	128.4	(D)	474.9	5.1
33692	Magnesium and magnesium-base alloy castings	83.3	(D)	-	-	(D)	17.0	(D)	53.2	(D)
33693	Other nonferrous castings	138.8	(D)	-	(D)	.1	(D)	(D)	110.8	13.4
33690	Nonferrous castings, n.e.c., n.s.k.	46.1	(D)	-	-	-	(D)	-	41.7	(D)
	Other shipments by 4-digit product group:									
3079-	Miscellaneous plastics products	(X)	(D)	-	-	(D)	(D)	-	(D)	(X)
3312-	Blast furnace and steel mill products	(X)	-	-	-	(D)	(D)	-	-	(X)
3313-	Electrometallurgical products	(X)	-	-	-	(D)	-	-	-	(X)
3317-	Steel pipe and tubes	(X)	(D)	-	-	(D)	-	-	-	(X)
3341-	Secondary nonferrous metals	(X)	-	-	-	(D)	(D)	(D)	-	(X)
3399-	Primary metal products, n.e.c.	(X)	(D)	-	-	-	(D)	-	(D)	(X)
3423-	Hand and edge tools, n.e.c.	(X)	-	(D)	-	-	(D)	-	-	(X)
3433-	Heating equipment, except electric	(X)	4.5	-	-	(D)	-	-	-	(X)
3441-	Fabricated structural metal	(X)	(D)	-	-	-	-	-	-	(X)
3443-	Fabricated plate work (boiler shops)	(X)	(D)	-	-	(D)	(D)	-	-	(X)
3462-	Iron and steel forgings	(X)	(D)	-	-	18.7	-	-	-	(X)
3465-	Automotive stampings	(X)	(D)	-	-	-	-	-	-	(X)
3494-	Valves and pipe fittings	(X)	(D)	-	-	(D)	(D)	-	-	(X)
3499-	Fabricated metal products, n.e.c.	(X)	-	-	-	(D)	(D)	-	(Z)	(X)
3523-	Farm machinery and equipment	(X)	(D)	-	-	-	(D)	-	-	(X)
3532-	Mining machinery	(X)	(D)	-	-	(D)	-	-	-	(X)
3541-	Machine tools, metal cutting types	(X)	(D)	-	-	-	-	-	-	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	3.8	(D)	5.7	(D)	(D)	(D)	(D)	(X)
3547-	Rolling mill machinery	(X)	(D)	-	-	(D)	-	-	-	(X)
3561-	Pumps and pumping equipment	(X)	(D)	-	-	-	(D)	-	-	(X)
3565-	Industrial patterns	(X)	(D)	(D)	4.7	(D)	17.6	(D)	1.9	(X)
3568-	Power transmission equipment, n.e.c.	(X)	(D)	-	-	-	(D)	(D)	-	(X)
3569-	General industrial machinery, n.e.c.	(X)	(D)	(D)	-	(D)	(D)	-	-	(X)
3592-	Carburetors, pistons, rings, and valves	(X)	-	-	-	(D)	-	-	-	(X)
3599-	Machinery, except electrical, n.e.c.	(X)	4.0	-	-	(D)	(D)	1.2	-	(X)
3624-	Carbon and graphite products	(X)	-	-	-	(D)	-	-	-	(X)
3694-	Engine electrical equipment	(X)	-	-	-	-	(D)	-	-	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	-	-	(D)	(D)	-	-	(X)
3743-	Railroad equipment	(X)	(D)	-	-	(D)	-	-	-	(X)
3949-	Sporting and athletic goods, n.e.c.	(X)	(D)	-	-	-	(D)	-	(D)	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	4.5	(D)	(D)	8.0	4.9	1.4	.9	(X)
99980 98	Other miscellaneous receipts	(X)	15.8	(D)	(D)	14.2	4.8	4.4	1.2	(X)
99989 00	Resales	(X)	135.3	1.4	.5	20.9	25.1	8.8	12.7	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** - Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
3321-	2531 Public building and related furniture	(D)	3324-	3443 Fabricated plate work (boiler shops)	(D)
	3312 Blast furnaces and steel mills	(D)			
	3433 Heating equipment, except electric	6.9	3325-	3312 Blast furnaces	(D)
	3494 Valves and pipe fittings	(D)		3462 Iron and steel forgings	(D)
	3519 Internal combustion engines, n.e.c	(D)		3566 Speed changers, drives and gears	(D)
	3523 Farm machinery and equipment	(D)		3795 Tanks and tank components	(D)
	3547 Rolling mill machinery	(D)			
	3552 Textile machinery	7.1	3361-	3592 Carburetors, pistons, rings, valves	9.3
	3554 Paper industries machinery	5.0		3714 Motor vehicle parts and accessories	(D)
	3561 Pumps and pumping equipment	15.4			
	3592 Carburetors, pistons, rings, valves	23.2	3362-	3351 Copper rolling and drawing	33.7
	3711 Motor vehicles and car bodies	(D)		3494 Valves and pipe fittings	11.9
	3714 Motor vehicle parts and accessories	(D)		3914 Silverware and plated ware	(D)
3322-	3494 Valves and pipe fittings	(D)	3369-	3339 Primary nonferrous metals, n.e.c	(D)
	3568 Power transmission equipment, n.e.c	(D)		3356 Nonferrous rolling and drawing, n.e.c	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

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Industry Series Final Report

CHANGE SHEET

FERROUS AND NONFERROUS FOUNDRIES

Page 33B-23 of table 6a has been revised. These revisions are indicated by ●

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Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]		Shipments to other companies		Interplant transfers	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
			1977						
	GRAY IRON FOUNDRIES								
3321- --	Total		(NA)	[3]13,090.7	7,835.2	(X)	(NA)	(X)	(NA)
3321A --	Cast iron pressure pipe and fittings, ductile iron.	1,000 s. tons.	(NA)	1,189.5	497.6	(X)	(X)	(X)	(X)
	Cast iron pressure pipe:								
3321A 22	3 inches up to and including 10 inches (inside diameter)		9	526.4	193.7	(X)	(X)	(X)	(X)
3321A 24	12 inches up to and including 20 inches (inside diameter)		8	435.4	156.2	(X)	(X)	(X)	(X)
3321A 27	24 inches up to and including 54 inches (inside diameter)		5	168.1	68.9	(X)	(X)	(X)	(X)
3321A 30	Other sizes not listed above		1						
	Fittings:								
3321A 33	3 inches up to and including 10 inches (inside diameter)		11	26.0	33.2	(X)	(X)	(X)	(X)
3321A 36	12 inches up to and including 20 inches (inside diameter)		8						
3321A 39	24 inches up to and including 54 inches (inside diameter)	1,000 s. tons.	4	33.6	45.6	(X)	(X)	(X)	(X)
3321A 42	Other sizes not listed above		3						
3321A 00	Cast iron pressure pipe and fittings, ductile iron, n.s.k.		(NA)	-	-	(X)	(X)	(X)	(X)
3321B --	Other ductile iron castings, n.e.c.		(NA)	[3]1,397.3	1,125.6	•574.1	572.9	•823.2	552.7
3321B 22	Automotive uses	1,000 s. tons.	43	996.8	660.5	•265.4	179.6	•731.4	480.9
3321B 24	Construction and utility uses	1,000 s. tons.	28	35.1	48.6	34.6	47.6	.5	1.0
3321B 27	All other uses, n.e.c.		154	359.7	411.9	268.4	341.1	91.3	70.8
3321B 00	Other ductile iron castings, n.e.c., n.s.k.		(NA)	[e]5.7	4.6	[e]5.7	4.6	(X)	(X)
33216 --	Gray iron castings, excluding ductile iron:								
33216 11	Molds and stools for heavy steel ingots	1,000 s. tons.	16	2,049.4	551.4	•1,367.0	•398.7	•682.4	•152.7
33217 --	Cast iron pressure pipe and fittings, gray iron		(NA)	[3]343.5	177.7	(X)	(X)	(X)	(X)
	Cast iron pressure pipe:								
33217 32	3 inches up to and including 10 inches (inside diameter)	1,000 s. tons.	15	*121.6	36.0	(X)	(X)	(X)	(X)
33217 34	12 inches up to and including 20 inches (inside diameter)		12						
33217 37	24 inches up to and including 54 inches (inside diameter	1,000 s. tons.	2	99.0	42.5	(X)	(X)	(X)	(X)
33217 40	Other sizes not listed above		5						
	Fittings:								
33217 43	3 inches up to and including 10 inches (inside diameter)	1,000 s. tons.	15	*73.9	59.0	(X)	(X)	(X)	(X)
33217 46	12 inches up to and including 20 inches (inside diameter)		16	*32.0	27.7	(X)	(X)	(X)	(X)
33217 49	24 inches up to and including 54 inches (inside diameter	1,000 s. tons.	7	15.8	11.2	(X)	(X)	(X)	(X)
33217 52	Other sizes not listed above		5						
33217 00	Cast iron pressure pipe and fittings, gray iron, n.s.k.		(NA)	[e]1.3	1.3	(X)	(X)	(X)	(X)
33218 --	Cast iron soil pipe and fittings, including special fittings, gray iron		(NA)	493.4	200.3	(X)	(X)	(X)	(X)
	Cast iron soil pipe:								
33218 22	Up to 3 inches (inside diameter)	1,000 s. tons.	7	95.2	37.2	(X)	(X)	(X)	(X)
33218 24	Over 3 inches up to but not including 5 inches (inside diameter)		8	167.0	50.3	(X)	(X)	(X)	(X)
33218 27	5 inches and over (inside diameter)		9	73.9	25.1	(X)	(X)	(X)	(X)
	Fittings, including special fittings:								
33218 30	Up to 3 inches (inside diameter)		11	56.6	31.8	(X)	(X)	(X)	(X)
33218 33	Over 3 inches up to but not including 5 inches (inside diameter)		13	61.6	32.2	(X)	(X)	(X)	(X)
33218 36	5 inches and over (inside diameter)		13	39.1	23.6	(X)	(X)	(X)	(X)
33218 00	Cast iron soil pipe and fittings, including special fittings, gray iron, n.s.k.	1,000 s. tons.	-	-	-	(X)	(X)	(X)	(X)
33219 --	Other gray iron castings, n.e.c.		(NA)	[3]7,279.8	5,081.9	•4,095.9	•2,776.7	•3,184.8	•2,305.2
33219 31	Rolls for rolling mills	1,000 s. tons.	12	(S)	124.2	(D)	(D)	(D)	(D)
33219 39	Automotive uses		90	3,968.0	2,533.1	•1,442.9	•842.9	•2,525.1	•1,690.2
33219 49	Construction and utility uses	1,000 s. tons.	106	(S)	463.3	(D)	(D)	(D)	(D)
33219 98	All other uses, n.e.c.		485	**2,477.3	1,940.2	•2,096.6	•1,575.6	•380.7	•364.6
33219 00	Other gray iron castings, n.e.c., n.s.k.		(NA)	[e] 30.2	21.1	(X)	(X)	(X)	(X)
33210 00	Gray iron castings, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	[e]212.8	127.4	(X)	(X)	(X)	(X)
33210 02	Gray iron castings, n.s.k., typically for establishments with less than 20 employees or more (see note)		(NA)	[e]125.0	73.4	(X)	(X)	(X)	(X)

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]		Shipments to other companies		Interplant transfers	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
			1977						
	GRAY IRON FOUNDRIES								
3321- --	Total	...	(NA)	[3]13,090.7	7,835.2	(X)	(NA)	(X)	(NA)
3321A --	Cast iron pressure pipe and fittings, ductile iron.	1,000 s. tons.	(NA)	1,189.5	497.6	(X)	(X)	(X)	(X)
	Cast iron pressure pipe:								
3321A 22	3 inches up to and including 10 inches (inside diameter)		9	526.4	193.7	(X)	(X)	(X)	(X)
3321A 24	12 inches up to and including 20 inches (inside diameter)		8	435.4	156.2	(X)	(X)	(X)	(X)
3321A 27	24 inches up to and including 54 inches (inside diameter)		5	168.1	68.9	(X)	(X)	(X)	(X)
3321A 30	Other sizes not listed above		1						
	Fittings:								
3321A 33	3 inches up to and including 10 inches (inside diameter)		11	26.0	33.2	(X)	(X)	(X)	(X)
3321A 36	12 inches up to and including 20 inches (inside diameter)		8	33.6	45.6	(X)	(X)	(X)	(X)
3321A 39	24 inches up to and including 54 inches (inside diameter)	1,000 s. tons.	4						
3321A 42	Other sizes not listed above	...	3						
3321A 00	Cast iron pressure pipe and fittings, ductile iron, n.s.k.	...	(NA)			(X)	(X)	(X)	(X)
3321B --	Other ductile iron castings, n.e.c.	...	(NA)	[3]1,397.3	1,125.6	574.1	572.9	823.2	552.7
3321B 22	Automotive uses	1,000 s. tons.	43	996.8	660.5	265.4	179.6	731.4	480.9
3321B 24	Construction and utility uses	1,000 s. tons.	28	35.1	48.6	34.6	47.6	.5	1.0
3321B 27	All other uses, n.e.c.	...	154	359.7	411.9	268.4	341.1	91.3	70.8
3321B 00	Other ductile iron castings, n.e.c., n.s.k.	...	(NA)	[e]5.7	4.6	[e]5.7	4.6	(X)	(X)
33216 --	Gray iron castings, excluding ductile iron:								
33216 11	Molds and stools for heavy steel ingots	1,000 s. tons.	16	2,049.4	551.4	1,367.0	398.7	682.4	152.7
33217 --	Cast iron pressure pipe and fittings, gray iron	...	(NA)	[3]343.5	177.7	(X)	(X)	(X)	(X)
	Cast iron pressure pipe:								
33217 32	3 inches up to and including 10 inches (inside diameter)	1,000 s. tons.	15	*121.6	36.0	(X)	(X)	(X)	(X)
33217 34	12 inches up to and including 20 inches (inside diameter)		12	99.0	42.5	(X)	(X)	(X)	(X)
33217 37	24 inches up to and including 54 inches (inside diameter)	1,000 s. tons.	2						
33217 40	Other sizes not listed above	...	5						
	Fittings:								
33217 43	3 inches up to and including 10 inches (inside diameter)	1,000 s. tons.	15	*73.9	59.0	(X)	(X)	(X)	(X)
33217 46	12 inches up to and including 20 inches (inside diameter)		16	*32.0	27.7	(X)	(X)	(X)	(X)
33217 49	24 inches up to and including 54 inches (inside diameter	1,000 s. tons.	7	15.8	11.2	(X)	(X)	(X)	(X)
33217 52	Other sizes not listed above	...	5						
33217 00	Cast iron pressure pipe and fittings, gray iron, n.s.k.	...	(NA)	[e]1.3	1.3	(X)	(X)	(X)	(X)
33218 --	Cast iron soil pipe and fittings, including special fittings, gray iron	...	(NA)	493.4	200.3	(X)	(X)	(X)	(X)
	Cast iron soil pipe:								
33218 22	Up to 3 inches (inside diameter)	1,000 s. tons.	7	95.2	37.2	(X)	(X)	(X)	(X)
33218 24	Over 3 inches up to but not including 5 inches (inside diameter)		8	167.0	50.3	(X)	(X)	(X)	(X)
33218 27	5 inches and over (inside diameter)		9	73.9	25.1	(X)	(X)	(X)	(X)
	Fittings, including special fittings:								
33218 30	Up to 3 inches (inside diameter)		11	56.6	31.8	(X)	(X)	(X)	(X)
33218 33	Over 3 inches up to but not including 5 inches (inside diameter)		13	61.6	32.2	(X)	(X)	(X)	(X)
33218 36	5 inches and over (inside diameter)		13	39.1	23.6	(X)	(X)	(X)	(X)
33218 00	Cast iron soil pipe and fittings, including special fittings, gray iron, n.s.k.	1,000 s. tons.	-	-	-	(X)	(X)	(X)	(X)
33219 --	Other gray iron castings, n.e.c.	...	(NA)	[3]7,279.8	5,081.9	4,095.9	2,776.7	3,184.8	2,305.2
33219 31	Rolls for rolling mills	1,000 s. tons.	12	(S)	124.2	(D)	(D)	(D)	(D)
33219 39	Automotive uses		90	3,968.0	2,533.1	1,442.9	842.9	2,525.1	1,690.2
33219 49	Construction and utility uses	1,000 s. tons.	106	(S)	463.3	(D)	(D)	(D)	(D)
33219 98	All other uses, n.e.c.	...	485	**2,477.3	1,940.2	2,096.6	1,575.6	380.7	364.6
33219 00	Other gray iron castings, n.e.c., n.s.k.	...	(NA)	[e]30.2	21.1	(X)	(X)	(X)	(X)
33210 00	Gray iron castings, n.s.k., typically for establishments with 20 employees or more (see note)	...	(NA)	[e]212.8	127.4	(X)	(X)	(X)	(X)
33210 02	Gray iron castings, n.s.k., typically for establishments with less than 20 employees or more (see note)	...	(NA)	[e]125.0	73.4	(X)	(X)	(X)	(X)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments		Shipments to other companies		Interplant transfers	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
			1972						
	GRAY IRON FOUNDRIES--Con.								
3321- --	Total	...	(X)	14,237.9	4,033.8	(X)	(NA)	(X)	(NA)
3321A --	Cast iron pressure pipe and fittings, ductile iron.	1,000 s. tons.	(X)	722.7	168.1				
	Cast iron pressure pipe:								
3321A 22	3 inches up to and including 10 inches (inside diameter)		(X)						
3321A 24	12 inches up to and including 20 inches (inside diameter)		(X)						
3321A 27	24 inches up to and including 54 inches (inside diameter)		(X)						
3221A 30	Other sizes not listed above		(X)						
	Fittings:								
3321A 33	3 inches up to and including 10 inches (inside diameter)		(X)	722.7	168.1				
3321A 36	12 inches up to and including 20 inches (inside diameter)		(X)			1,290.8	451.8	439.4	153.6
3321A 39	24 inches up to and including 54 inches (inside diameter)	1,000 s. tons.	(X)						
3321A 42	Other sizes not listed above	...	(X)						
3321A 00	Cast iron pressure pipe and fittings, ductile iron, n.s.k.	...	(X)	(X)	(NA)				
3321B --	Other ductile iron castings, n.e.c.	...	(X)	1,007.5	437.3				
3321B 22	Automotive uses	1,000 s. tons.	(X)						
3321B 24	Construction and utility uses	1,000 s. tons.	(X)	1,007.5	437.3				
3321B 27	All other uses, n.e.c.	...	(X)						
3321B 00	Other ductile iron castings, n.e.c., n.s.k.	...	(X)	(X)	(NA)				
33216 --	Gray iron castings, excluding ductile iron:								
33216 11	Molds and stools for heavy steel ingots	1,000 s. tons.	(X)	2,727.8	312.0	1,766.2	197.9	961.6	114.1
33217 --	Cast iron pressure pipe and fittings, gray iron	...	(X)	1,264.8	245.4	1,264.8	245.4	(X)	(X)
	Cast iron pressure pipe:								
33217 32	3 inches up to and including 10 inches (inside diameter)	1,000 s. tons.	(X)						
33217 34	12 inches up to and including 20 inches (inside diameter)		(X)						
33217 37	24 inches up to and including 54 inches (inside diameter)	1,000 s. tons.	(X)						
33217 40	Other sizes not listed above	...	(X)						
	Fittings:								
33217 43	3 inches up to and including 10 inches (inside diameter)	1,000 s. tons.	(X)	1,250.9	242.7	1,250.9	242.7	(X)	(X)
33217 46	12 inches up to and including 20 inches (inside diameter)		(X)						
33217 49	24 inches up to and including 54 inches (inside diameter)	1,000 s. tons.	(X)						
33217 52	Other sizes not listed above	...	(X)						
33217 00	Cast iron pressure pipe and fittings, gray iron, n.s.k.	...	(X)	13.9	2.7	13.9	2.7	(X)	(X)
33218 --	Cast iron soil pipe and fittings, including special fittings, gray iron	...	(X)	1,009.4	220.2	1,009.4	220.2	(X)	(X)
	Cast iron soil pipe:								
33218 22	Up to 3 inches (inside diameter)	1,000 s. tons.	(X)	(5)	(5)	(5)	(5)	(X)	(X)
33218 24	Over 3 inches up to but not including 5 inches (inside diameter)		(X)	(6)	(6)	(6)	(6)	(X)	(X)
33218 27	5 inches and over (inside diameter)		(X)	(7)	(7)	(7)	(7)	(X)	(X)
	Fittings, including special fittings:								
33218 30	Up to 3 inches (inside diameter)		(X)	5267.5	561.1	5267.5	561.1	(X)	(X)
33218 33	Over 3 inches up to but not including 5 inches (inside diameter)		(X)	6541.2	6116.0	6541.2	6116.0	(X)	(X)
33218 36	5 inches and over (inside diameter)		(X)	7188.3	740.0	7188.3	740.0	(X)	(X)
33218 00	Cast iron soil pipe and fittings, including special fittings, gray iron, n.s.k.	1,000 s. tons.	(X)	12.4	2.7	12.4	2.7	(X)	(X)
33219 --	Other gray iron castings, n.e.c.	...	(X)	7,136.5	2,546.2	(X)	(NA)	(X)	(NA)
33219 31	Rolls for rolling mills	1,000 s. tons.	(X)	122.9	83.1				
33219 39	Automotive uses		(X)			5,075.8	1,871.4	1,925.6	626.6
33219 49	Construction and utility uses	1,000 s. tons.	(X)	6,878.5	2,414.9				
33219 98	All other uses, n.e.c.	...	(X)						
33219 00	Other gray iron castings, n.e.c., n.s.k.	...	(X)	135.1	48.2	(X)	(NA)	(X)	(NA)
33210 00	Gray iron castings, n.s.k., typically for establishments with 10 employees or more (see note)	...	(X)	331.8	94.0	(X)	(NA)	(X)	(NA)
33210 02	Gray iron castings, n.s.k., typically for establishments with less than 10 employees (see note)	...	(X)	37.4	10.6	(X)	(NA)	(X)	(NA)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]		Shipments to other companies[1]		Interplant transfers[1]	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
				1977					
	MALLEABLE IRON FOUNDRIES								
3322- --	Total	1,000 s. tons.	(NA)	[3]771.7	669.5	[3]516.5	479.1	255.1	190.2
33221 --	Standard malleable iron castings:								
33221 31	Standard malleable iron castings		53	528.3	453.0	510.5	471.5	255.1	190.2
33222 --	Pearlitic malleable iron castings:								
33222 21	Pearlitic malleable iron castings		25	237.3	208.7				
33220 00	Malleable iron castings, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	[e]6.2	5.4	[e]6.0	5.2	-	-
33220 02	Malleable iron castings, n.s.k., typically for establishments with less than 20 employees (see note)	1,000 s. tons.	(NA)	(NA)	2.4	(NA)	2.4	-	-
				1972					
	MALLEABLE IRON FOUNDRIES								
3322- --	Total	1,000 s. tons.	(X)	[3]963.5	484.8	[3]690.4	363.3	273.1	121.5
33221 --	Standard malleable iron castings:								
33221 31	Standard malleable iron castings		(X)	676.6	345.8	666.2	353.6	273.1	121.5
33222 --	Pearlitic malleable iron castings:								
33222 21	Pearlitic malleable iron castings		(X)	262.7	129.3				
33220 00	Malleable iron castings, n.s.k., typically for establishments with 10 employees or more (see note)		(X)	[e]23.6	9.4	[e]23.6	9.4	-	-
33220 02	Malleable iron castings, n.s.k., typically for establishments with less than 10 employees (see note)	1,000 s. tons.	(X)	[e].6	.3	[e].6	.3	-	-
				1977					
	STEEL INVESTMENT FOUNDRIES								
3324- --	Total	1,000 lb.	(NA)	[3]51,751.2	434.1	(X)	(NA)	(X)	(NA)
33240 --	Steel investment castings:								
33240 63	Carbon, including low alloy		36	**16,155.0	79.0	47,820.8	396.9	1,439.1	16.3
33240 65	Alloy, including stainless		59	33,104.9	334.2				
33240 00	Steel investment castings, n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	[e]1,954.9	16.4	(X)	(NA)	(X)	(NA)
33240 02	Steel investment castings, n.s.k., typically for establishments with 10 employees or less (see note)	1,000 lb.	(NA)	536.4	4.5	(X)	(NA)	(X)	(NA)
				1972					
	STEEL INVESTMENT FOUNDRIES								
3324- --	Total	1,000 lb.	(X)	[3]40,638.9	237.7	(X)	(NA)	(X)	(NA)
33240 --	Steel investment castings:								
33240 63	Carbon, including low alloy		(X)	12,089.3	60.8	11,163.5	53.6	925.8	7.2
33240 65	Alloy, including stainless		(X)	26,224.4	163.3	26,023.7	161.9	200.7	1.4
33240 00	Steel investment castings, n.s.k., typically for establishments with 10 employees or more (see note)								
33240 02	Steel investment castings, n.s.k., typically for establishments with 10 employees or less (see note)	1,000 lb.	(X)	[e]2,325.2	13.6	(X)	(NA)	(X)	(NA)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1] Quantity[2]	Product shipments[1] Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)
			1977						
	STEEL CASTINGS, N.E.C.								
3325- --	Total	1,000 s. tons.	(NA)	[3]1,602.1	2,205.8	(X)	(NA)	(X)	(NA)
33252 --	Carbon steel castings, except investment		(NA)	[3]1,120.2	1,250.9	(X)	(NA)	(X)	(NA)
33252 12	Cast steel railroad car wheels		3						
33252 13	Railway specialties, except cast railroad car wheels		11	606.5	446.7	[4]606.5	[4]446.7	([4])	([4])
33252 15	Rolls for rolling mills		7	26.2	36.9	19.6	27.7	-	-
33252 19	Other carbon steel castings		129	*481.8	760.7	450.7	714.0	37.5	53.4
33252 00	Carbon steel castings, except investment, n.s.k.		(NA)	[e]5.8	6.6	(X)	(NA)	(X)	(NA)
33254 --	High alloy steel castings, except investment		(NA)	[3]108.6	367.0	(X)	(NA)	(X)	(NA)
33254 21	High manganese steel castings		13	50.5	84.1	47.3	78.6	3.2	5.5
33254 31	High alloy steel castings		101	*56.7	278.4	54.3	268.1	2.4	10.3
33254 00	High alloy steel castings, except investment, n.s.k.		(NA)	[e]1.4	4.5	(X)	(NA)	(X)	(NA)
33255 --	Other alloy steel castings, except investment		(NA)	[3]324.7	521.0	(X)	(NA)	(X)	(NA)
33255 51	Railway specialties		9	47.6	54.2	[4]47.6	[4]54.2	([4])	([4])
33255 55	Rolls for rolling mills		8	**19.2	51.1	14.3	43.0	4.9	8.1
33255 59	Other alloy steel castings		76	**255.1	409.2	223.9	363.5	31.2	46.7
33255 00	Other alloy steel castings, except investment, n.s.k.		(NA)	[e]2.8	6.5	(X)	(NA)	(X)	(NA)
33250 00	Steel castings, n.e.c., n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	[e]27.9	38.4	(X)	(NA)	(X)	(NA)
33250 02	Steel castings, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)	1,000 s. tons.	(NA)	[e]20.7	28.5	(X)	(NA)	(X)	(NA)
			1972						
	STEEL CASTINGS, N.E.C.								
3325- --	Total	1,000 s. tons.	(X)	[3]1,405.9	1,050.3	(X)	(NA)	(X)	(NA)
33252 --	Carbon steel castings, except investment		(X)	[3]905.9	543.7	(X)	(NA)	(X)	(NA)
33252 12	Cast steel railroad car wheels		(X)					-	-
33252 13	Railway specialties, except cast railroad car wheels		(X)	427.0	171.4	[4]427.0	[4]171.4	([4])	([4])
33252 15	Rolls for rolling mills		(X)						
33252 19	Other carbon steel castings		(X)	470.6	367.3	[4]470.6	[4]367.3	([4])	([4])
33252 00	Carbon steel castings, except investment, n.s.k.		(X)	[e]8.3	5.0	(X)	(NA)	(X)	(NA)
33254 --	High alloy steel castings, except investment		(X)	63.3	127.7	(NA)	(NA)	(NA)	(NA)
33254 21	High manganese steel castings		(X)	17.0	16.4	[4]17.0	[4]16.4	([4])	([4])
33254 31	High alloy steel castings		(X)	46.3	111.3	42.2	103.5		7.8
33255 --	Other alloy steel castings, except investment		(X)	[3]393.3	346.5	(X)	(NA)	(X)	(NA)
33255 51	Railway specialties		(X)	44.9	26.1	[4]44.6	[4]26.1	([4])	([4])
33255 55	Rolls for rolling mills		(X)	64.1	51.8	[4]64.1	[4]51.8	([4])	([4])
33255 59	Other alloy steel castings		(X)	274.2	259.7	265.2	246.1	9.0	13.6
33255 00	Other alloy steel castings, except investment, n.s.k.		(X)	[e]10.1	8.9	(X)	(NA)	(X)	(NA)
33250 00	Steel castings, n.e.c., n.s.k., typically for establishments with 10 employees or more(see note)		(X)	[e]43.0	32.1	(X)	(NA)	(X)	(NA)
33250 02	Steel castings, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)	1,000 s. tons.	(X)	[e].4	.3	(X)	(NA)	(X)	(NA)

1977 product code	Product	Unit of measure	1977 Number of companies with shipments of $100,000 or more	1977 Product shipments[1] Quantity[2]	1977 Product shipments[1] Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	ALUMINUM FOUNDRIES						
3361- --	Total	.....	(NA)	(X)	2,294.2	(X)	1,172.3
33611 --	Aluminum and aluminum-base alloy die castings:						
33611 61	Aluminum and aluminum-base alloy die castings, except aluminum cooking utensils	Million lb....	234	1,000.5	1,086.8	763.3	532.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3361- --	ALUMINUM FOUNDRIES--Con.						
33612 --	Other aluminum and aluminum-base alloy castings, including cast finished products	.....	(NA)	(X)	1,055.0	(X)	509.7
	Aluminum and aluminum-base alloy castings, except die castings:						
33612 11	Sand	Million lb....	358	*186.9	377.0	165.0	206.2
33612 31	Permanent and semipermanent mold	↑	145	351.0	508.8	304.4	229.2
33612 51	Investment	↓	24	(S)	30.6	(NA)	15.1
33612 61	Other, except die	Million lb....	43	*38.3	74.8	11.0	27.2
33612 73	Nonelectric cast aluminum pressure cookers, household type, and nonelectric cast aluminum cooking utensils	.....	9	(X)	44.6	(X)	32.0
33612 00	Other aluminum and aluminum-base alloy casting, n.s.k.	.....	16	(X)	19.1	(X)	-
33610 00	Aluminum and aluminum-base alloy castings, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	94.3	(X)	102.3
33610 02	Aluminum and aluminum-base alloy castings, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	58.2	(X)	27.7
	BRASS, BRONZE, AND COPPER FOUNDRIES						
3362- --	Total	.....	(NA)	(X)	615.6	(X)	462.9
33620 --	Copper and copper-base alloy castings:						
	Copper and copper-base alloy castings, except bearings and bushings:						
33620 11	Sand	Million lb....	288	*218.9	365.5	210.0	248.7
33620 31	Permanent and semipermanent mold	↑	17	*20.8	32.0	22.0	27.5
33620 41	Die	↓	23	23.6	47.9	15.0	16.5
33620 51	Investment	Thousand lb...	19	(S)	12.8	(NA)	4.4
33620 61	Other	Million lb....	45	*37.7	62.7	12.1	17.2
33620 71	Copper-base alloy bearings and bushings, nonmachined	.....	31	(X)	27.5	(X)	65.9
33620 00	Copper and copper-base alloy castings, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	48.2	(X)	69.5
33620 02	Copper and copper-base alloy castings, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	19.1	(X)	13.2
	NONFERROUS FOUNDRIES, N.E.C.						
3369- --	Total	.....	(NA)	(X)	878.1	(X)	603.5
33691 --	Zinc and zinc-base alloy castings	Million lb....	(NA)	(X)	609.9	521.5	401.6
33691 51	Die	↑	196	*446.6	586.3	507.3	386.9
33691 61	Other	↓	17	21.5	22.9	14.2	14.7
33691 00	Zinc and zinc-base alloy castings, n.s.k	.....	(NA)	(X)	.7	-	-
33692 --	Magnesium and magnesium-base alloy castings	.....	(NA)	(X)	83.3	(X)	41.3
33692 11	Sand	Million lb....	25	(S)	32.2	(NA)	15.0
33692 31	Die	↑	12	(S)	31.8	11.6	14.5
33692 33	Cast anodes	↓	6	**9.6	15.2	17.6	11.8
33692 41	Other, including permanent and semipermanent mold	Million lb....	4	10.8	3.5		
33692 00	Magnesium and magnesium-base alloy castings, n.s.k	.....	(NA)	(X)	.6	-	-
33693 --	Other nonferrous castings, excluding aluminum and copper	.....	(NA)	(X)	138.8	(X)	94.7
33693 71	Lead and lead-base alloy die castings	Million lb....	12	*38.3	24.6	(NA)	17.5
33693 98	Other nonferrous metal castings, including die castings, except aluminum and aluminum-base alloy, copper and copper-base alloy, zinc and zinc-base alloy, magnesium and magnesium-base alloy, and lead and lead-base alloy castings.	↑ ↓ Million lb....	35	(S)	112.5	(X)	77.2
33693 00	Other nonferrous castings, excluding aluminum and copper, n.s.k	.....	(NA)	(X)	1.7	-	-
33690 00	Nonferrous castings, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	25.2	(X)	54.3
33690 02	Nonferrous castings, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	20.9	(X)	11.6

Footnotes are on next page.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. e Estimated. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because the estimate did not meet publication standards. (X) Not applicable.

[1] Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2] For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3] Includes estimated n.s.k. data.

[4] Interplant transfers data were included with shipments to other companies data to avoid disclosing operations of individual companies.

[5] For 1972, product code 33218 22 was included with product code 33218 30.

[6] For 1972, product code 33218 24 was included with product code 33218 33.

[7] For 1972, product code 33218 27 was included with product code 33218 36.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
33216, MOLDS AND STOOLS FOR HEAVY STEEL INGOTS		
United States	551.4	312.0
Middle Atlantic Division:		
Pennsylvania	260.5	GG
East North Central Division:		
Illinois	89.6	46.7
33217, CAST IRON PRESSURE PIPE AND FITTINGS, GRAY IRON		
United States	177.7	245.4
Middle Atlantic Division:		
Pennsylvania	13.2	(NA)
East South Central Division:		
Alabama	57.4	GG
Mountain Division:		
Utah	10.4	EE
Pacific Division:		
California	4.0	CC
33218, CAST IRON SOIL PIPE AND FITTINGS, GRAY IRON		
United States	200.3	220.2
Middle Atlantic Division:		
Pennsylvania	16.2	14.2
South Atlantic Division:		
Virginia	15.2	CC
Pacific Division:		
California	20.8	18.1
33219, OTHER GRAY IRON CASTINGS, N.E.C.		
United States	5,081.9	2,546.2
New England Division:		
Massachusetts	42.7	39.6
Connecticut	25.5	EE
Middle Atlantic Division:		
New York	227.8	141.6
New Jersey	27.2	21.9
Pennsylvania	235.7	122.3
East North Central Division:		
Ohio	967.0	483.0
Indiana	386.1	221.9
Illinois	500.7	202.9
Michigan	1,371.1	674.8
Wisconsin	358.1	162.1
West North Central Division:		
Minnesota	39.4	24.2
Iowa	93.9	27.9
Missouri	70.9	21.9
Nebraska	8.7	BB
Kansas	29.5	EE
South Atlantic Division:		
Maryland	12.6	CC
West Virginia	17.4	10.8
North Carolina	13.2	CC
South Carolina	7.8	7.7
Georgia	19.3	6.5
East South Central Division:		
Tennessee	135.1	75.8
Alabama	39.3	32.6
West South Central Division:		
Arkansas	11.9	CC
Oklahoma	26.7	9.1
Texas	67.0	27.5
33219, OTHER GRAY IRON CASTINGS, N.E.C.--Con.		
Mountain Division:		
Colorado	10.3	9.1
Utah	4.4	1.7
Pacific Division:		
Washington	6.6	6.5
Oregon	9.6	4.0
California	85.8	46.7
3321A, CAST IRON PRESSURE PIPE AND FITTINGS, DUCTILE		
United States	497.6	(NA)
Middle Atlantic Division:		
New Jersey	76.2	(NA)
East South Central Division:		
Alabama	216.7	(NA)
3321B, OTHER DUCTILE IRON CASTINGS, N.E.C.		
United States	1,125.6	(NA)
New England Division:		
Massachusetts	4.0	(NA)
Middle Atlantic Division:		
Pennsylvania	17.6	(NA)
East North Central Division:		
Ohio	239.2	(NA)
Indiana	29.5	(NA)
Illinois	110.2	(NA)
Michigan	322.8	(NA)
Wisconsin	77.9	(NA)
West North Central Division:		
Minnesota	20.2	(NA)
Kansas	8.5	(NA)
South Atlantic Division:		
North Carolina	5.8	(NA)
Georgia	27.8	(NA)
East South Central Division:		
Tennessee	69.6	(NA)
Alabama	16.7	(NA)
West South Central Division:		
Oklahoma	16.1	(NA)
Texas	16.5	(NA)
Pacific Division:		
Washington	5.1	(NA)
California	23.9	(NA)
33221, STANDARD MALLEABLE IRON CASTINGS		
United States	453.0	345.8
Middle Atlantic Division:		
New York	18.1	13.9
Pennsylvania	67.1	43.1
West North Central Division:		
Ohio	58.3	GG
Indiana	12.2	63.0
Illinois	14.9	EE
Michigan	167.0	27.4
Wisconsin	46.0	102.6
33222, PEARLITIC MALLEABLE IRON CASTINGS		
United States	208.7	129.3
Middle Atlantic Division:		
Pennsylvania	7.9	4.5
East North Central Division:		
Illinois	33.6	FF
Wisconsin	5.4	BB

See footnotes at end of table.

Table 6b. **Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
33252, CARBON STEEL CASTINGS, EXCEPT INVESTMENT		
United States	1,250.9	543.7
Middle Atlantic Division:		
New York	59.1	FF
Pennsylvania	183.3	85.7
East North Central Division:		
Ohio	177.3	74.4
Indiana	74.9	32.4
Illinois	160.9	49.7
Michigan	41.7	31.2
Wisconsin	115.3	57.3
West North Central Division:		
Iowa	44.0	13.9
East South Central Division:		
Alabama	75.2	FF
West South Central Division:		
Texas	57.9	9.9
Pacific Division:		
Washington	26.6	10.5
Oregon	5.8	BB
California	47.8	20.7
33254, HIGH ALLOY STEEL CASTINGS, EXCEPT INVESTMENT		
United States	367.0	127.7
Middle Atlantic Division:		
Pennsylvania	61.9	37.8
East North Central Division:		
Ohio	43.3	30.6
Indiana	5.1	1.1
Illinois	32.6	CC
Michigan	17.1	BB
Wisconsin	26.0	7.1
West South Central Division:		
Oklahoma	10.7	AA
Texas	9.4	(NA)
Pacific Division:		
Washington	19.1	BB
California	24.1	12.7
33255, OTHER ALLOY STEEL CASTINGS, EXCEPT INVESTMENT		
United States	521.0	346.5
Middle Atlantic Division:		
Pennsylvania	121.9	51.1
East North Central Division:		
Ohio	35.3	27.0
Illinois	10.6	47.7
Michigan	13.1	BB
Wisconsin	64.3	43.8
West South Central Division:		
Texas	32.9	10.2
Pacific Division:		
Washington	9.2	FF
California	28.9	12.0
33611, ALUMINUM AND ALUMINUM-BASE ALLOY DIE CASTINGS		
United States	1,086.8	532.6
New England Division:		
Massachusetts	10.2	BB
Connecticut	22.3	EE
33611, ALUMINUM AND ALUMINUM-BASE ALLOY DIE CASTINGS--Con.		
Middle Atlantic Division:		
New York	55.9	44.5
New Jersey	11.2	7.4
Pennsylvania	64.9	41.9
East North Central Division:		
Ohio	171.0	92.3
Illinois	123.7	44.4
Michigan	96.0	FF
Wisconsin	124.9	52.4
West North Central Division:		
Minnesota	27.6	14.6
Iowa	12.2	CC
Missouri	15.2	CC
South Atlantic Division:		
South Carolina	14.6	BB
East South Central Division:		
Tennessee	9.9	AA
West South Central Division:		
Arkansas	9.5	CC
Texas	10.4	BB
Pacific Division:		
Oregon	4.3	CC
California	73.0	29.6
33612, OTHER ALUMINUM AND ALUMINUM-BASE ALLOY CASTINGS		
United States	1,055.0	509.7
New England Division:		
New Hampshire	6.8	4.8
Massachusetts	11.3	6.6
Connecticut	8.7	7.6
Middle Atlantic Division:		
New York	105.4	39.0
New Jersey	6.5	10.4
Pennsylvania	38.9	23.0
East North Central Division:		
Ohio	200.6	113.2
Indiana	70.1	35.5
Illinois	32.9	28.4
Michigan	103.6	40.6
Wisconsin	78.7	40.3
West North Central Division:		
Minnesota	39.9	24.0
Iowa	9.5	6.0
Missouri	32.4	20.6
Kansas	5.6	BB
South Atlantic Division:		
North Carolina	6.7	1.7
Florida	4.1	2.6
West South Central Division:		
Oklahoma	8.2	BB
Texas	26.9	5.1
Mountain Division:		
Colorado	8.9	5.2
Arizona	3.0	(NA)
Pacific Division:		
Washington	11.6	3.7
Oregon	3.3	7.1
California	114.0	49.0

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
33691, ZINC AND ZINC-BASE ALLOY CASTINGS		
United States	609.9	401.6
New England Division:		
Rhode Island	6.9	BB
Connecticut	15.0	9.3
Middle Atlantic Division:		
New York	53.9	34.5
New Jersey	9.3	8.1
Pennsylvania	22.1	13.3
East North Central Division:		
Ohio	95.1	59.1
Illinois	71.3	54.7
Michigan	170.0	118.0
Wisconsin	15.1	EE
West North Central Division:		
Minnesota	8.3	CC
Iowa	9.5	6.5
Missouri	16.4	6.7
South Atlantic Division:		
Florida	7.8	AA
33691, ZINC AND ZINC-BASE ALLOY CASTINGS--Con.		
East South Central Division:		
Tennessee	7.2	BB
Pacific Division:		
California	37.9	21.7
33692, MAGNESIUM AND MAGNESIUM-BASE ALLOY CASTINGS		
United States	83.3	41.3
East North Central Division:		
Ohio	5.4	AA
Illinois	6.6	1.8
Pacific Division:		
California	6.5	CC
33693, OTHER NONFERROUS CASTINGS		
United States	138.8	94.7
East North Central Division:		
Ohio	48.9	FF
Michigan	4.5	(NA)
Pacific Division:		
California	19.5	EE

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3321-	Gray iron castings	7,835.2	6,951.6	6,077.7	6,066.0	5,089.6	4,033.8	2,740.4	2,046.3
33216	Molds and stools for heavy steel ingots	551.4	390.7	333.7	518.3	374.4	312.0	(NA)	(NA)
33217	Cast iron pressure pipe and fittings, gray iron	177.7	173.9	210.9	320.5	323.7	245.4	(NA)	(NA)
33218	Cast iron soil pipe and fittings, gray iron	200.3	179.7	220.9	218.5	269.8	220.2	156.0	152.1
33219	Other gray iron castings, n.e.c.	5,081.9	4,725.8	3,970.0	3,932.3	3,163.0	2,546.2	(NA)	(NA)
3321A	Cast iron pressure pipe and fittings, ductile	497.6	1,454.2	1,230.1	981.0	808.8	605.4	(NA)	(NA)
3321B	Other ductile iron castings, n.e.c.	1,125.6						(NA)	(NA)
33210	Gray iron castings, n.s.k.	200.8	(S)	(112.1)	(95.4)	149.9	104.6	117.5	43.0
3322-	Malleable iron castings	669.5	639.8	561.3	626.8	533.8	484.8	417.2	313.6
33221	Standard malleable iron castings	453.0	433.4	397.1	458.6	377.3	345.8	(NA)	(NA)
33222	Pearlitic malleable iron castings	208.7	194.0	148.8	157.0	149.1	129.3	(NA)	(NA)
33220	Malleable iron castings, n.s.k.	7.8	12.4	15.4	11.2	7.4	9.7	(NA)	(NA)
33240	Steel investment castings	434.1	432.2	412.5	379.8	283.6	237.7	167.6	(NA)
3325-	Steel castings, n.e.c.	2,205.8	2,048.0	2,073.9	1,685.8	1,220.9	1,050.3	1,042.1	
33252	Carbon steel castings, except investment	1,250.9	1,116.6	1,210.6	997.2	661.1	543.7	619.0	(NA)
33254	High alloy steel castings, except investment	367.0	423.3	382.8	285.9	159.6	127.7	390.0	(NA)
33255	Other alloy steel castings, except investment	521.0	478.5	473.4	391.0	373.4	346.5		(NA)
33250	Steel castings, n.e.c., n.s.k.	66.9	(29.6)	(7.1)	11.7	26.8	32.4	33.1	(NA)
3361-	Aluminum castings	2,294.2	1,963.0	1,535.7	1,745.4	1,397.7	1,172.3	885.4	607.0
33611	Aluminum and aluminum-base alloy die castings	1,086.8	1,064.9	787.3	889.2	629.2	532.6	(NA)	(NA)
33612	Other aluminum and aluminum-base alloy castings	1,055.0	862.6	682.6	(757.8)	620.4	509.7	(NA)	(NA)
33610	Aluminum and aluminum-base alloy castings, n.s.k.	152.5	(S)	(65.8)	(98.4)	148.1	130.0	(NA)	(NA)
33620	Copper and copper-base alloy castings	615.6	565.6	493.8	620.2	534.9	462.9	432.3	299.8
3369-	Nonferrous castings	878.1	648.8	541.8	621.8	706.1	603.5	551.3	306.1
33691	Zinc and zinc-base alloy castings	609.9	404.9	308.2	416.7	504.7	401.6	323.3	(NA)
33692	Magnesium and magnesium-base alloy castings	83.3	53.3	44.9	55.9	49.9	41.3	178.5	(NA)
33693	Other nonferrous castings	138.8	(176.7)	(183.6)	135.1	96.0	94.7		(NA)
33690	Nonferrous castings, n.e.c., n.s.k.	46.1	(S)	(S)	(14.1)	(55.5)	65.9	49.5	(NA)

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 3321, GRAY IRON FOUDNRIES					
	Materials, parts, containers, and supplies	.....	(X)	2,671.6	(X)	1,349.6
331051	Pig iron, excluding silvery iron	1,000 s. tons..	1,957.3	343.3	3,327.4	243.3
	Nonferrous metals, alloys, and ferroalloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed		*1.1	1.2	1.4	.6
333405	Aluminum-base alloys		3.6	3.9	4.8	2.3
333121	Copper, unalloyed (cathodes, ingot, cakes, slabs, etc.)		(S)	1.5	1.2	1.3
334123	Copper-base alloy raw materials (ingot, billets, shot, waffle, hardeners, etc.)		(S)	6.3	6.5	7.0
333348	Zinc and zinc-base alloys		(Z)	(Z)	.2	.1
331313	Ferromanganese, silicomanganese, and manganese		97.2	41.7	[3]41.4	[3]7.2
331320	Ferrochromium		10.1	6.3	11.7	4.1
331331	Ferrosilicon (over 8 percent silicon)		176.6	67.0	(X)	72.8
331309	Other ferroalloys, including silvery iron		264.1	80.4	555.1	
	Scrap (purchased only):					
999811	Iron and steel		9,252.9	688.2	8,414.7	328.9
999808	Aluminum and aluminum-base alloys		*.6	.2	1.7	.6
999812	Copper and copper-base alloys		.3	.5	.9	.9
333973	Magnesium and magnesium-base alloys		33.5	33.4	(X)	([4])
144603	Sand		5,554.3	86.9	5,554.4	40.2
325501	Clay refractories		(S)	30.9	331.9	11.1
329701	Nonclay refractories	1,000 s. tons..	*55.2	15.0	74.6	9.7
970099	All other materials and components, parts, containers, and supplies, excluding coal and coke	.....	(X)	1,081.7	(X)	[4]558.7
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	183.2	(X)	60.8
	INDUSTRY 3322, MALLEABLE IRON FOUNDRIES					
	Materials, parts, containers, and supplies	.....	(X)	197.5	(X)	135.7
331051	Pig iron, excluding silvery iron	1,000 s. tons..	(S)	6.2	70.8	5.6
	Nonferrous metals, alloys, and ferroalloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed		(D)	(D)	.5	.3
333405	Aluminum-base alloys		(X)	.7		
333121	Copper, unalloyed (cathodes, ingot, cakes, slabs, etc.)		(D)	(D)	.3	.4
334123	Copper-base alloy raw materials (ingot, billets, shot, waffle, hardeners, etc.)		.3	.4		
333348	Zinc and zinc-base alloys		(D)	(D)	(D)	(D)
331313	Ferromanganese, silicomanganese, and manganese		2.8	1.6	(X)	([3])
331320	Ferrochromium		.2	.2	(Z)	(Z)
331331	Ferrosilicon (over 8 percent silicon)		16.3	7.5	(X)	([5])
331309	Other ferroalloys, including silvery iron		15.8	4.4	45.4	7.9
	Scrap (purchased only):					
999811	Iron and steel		808.5	61.3	917.8	35.0
999808	Aluminum and aluminum-base alloy		(X)	(X)	(S)	(D)
999812	Copper and copper-base alloy		(D)	(D)	(S)	(D)
333973	Magnesium and magnesium-base alloys		.1	.1	(S)	(D)
144603	Sand		412.5	5.1	483.4	4.5
325501	Clay refractories		(S)	3.3	40.2	3.1
329701	Nonclay refractories	1,000 s. tons..	6.2	2.5	9.1	1.5
970099	All other materials and components, parts, containers, and supplies, excluding coal and coke	.....	(X)	95.5	(X)	[5]73.1
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	8.2	(X)	2.9
	INDUSTRY 3324, STEEL INVESTMENT FOUNDRIES					
	Materials, parts, containers, and supplies	.....	(X)	118.3	(X)	74.5
331051	Pig iron, excluding silvery iron	1,000 s. tons..	(S)	2.3	(D)	(D)
	Nonferrous metals, alloys, and ferroalloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed		(D)	(D)	(D)	(D)
333405	Aluminum-base alloys		(S)	(D)	.4	.3
333121	Copper, unalloyed (cathodes, ingot, cakes, slabs, etc.)		(D)	(D)	(D)	(D)
334123	Copper-base alloy raw materials (ingot, billets, shot, waffle, hardeners, etc.)		*1.1	1.3	.3	.4
333973	Magnesium and magnesium-base alloy		(D)	(D)	(X)	([6])
331313	Ferromanganese, silicomanganese, and manganese		(S)	1.2	.2	.1
331320	Ferrochromium		(S)	3.5	.5	.2
331331	Ferrosilicon (over 8 percent silicon)		(D)	(D)	(X)	([6])
331309	Other ferroalloys, including silvery iron		(S)	32.8	17.1	14.4
	Scrap (purchased only):					
999811	Iron and steel		(S)	6.2	136.0	6.3
999808	Aluminum and aluminum-base alloy		-	-	(D)	(D)
999812	Copper and copper-base alloy		(D)	(D)	(D)	(D)
144603	Sand		6.5	.9	15.9	.9
325501	Clay refractories		(S)	.7	3.6	.3
329701	Nonclay refractories	1,000 s. tons..	*5.4	2.4	2.2	.5
970099	All other materials and components, parts, containers, and supplies, excluding coal and coke	.....	(X)	49.3	(X)	[6]38.8
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	17.5	(X)	11.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3325, STEEL FOUNDRIES, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	714.3	(X)	296.7
331051	Pig iron, excluding silvery iron	1,000 s. tons..	(S)	8.2	37.2	2.9
	Nonferrous metals, alloys, and ferroalloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed		1.9	1.9	1.6	.8
333405	Aluminum-base alloys		.7	.8	3.3	1.6
333121	Copper, unalloyed (cathodes, ingot, cakes, slabs, etc.)		(S)	1.3	.8	.8
334123	Copper-base alloy raw materials (ingot, billets, shot, waffle, hardeners, etc.)		10.3	11.8	2.0	2.1
333973	Magnesium and magnesium-base alloys		**.2	.2	.9	.4
331313	Ferromanganese, silicomanganese, and manganese		*43.1	19.9	(X)	(5)
331320	Ferrochromium		**23.0	19.9	16.2	6.6
331331	Ferrosilicon (over 8 percent silicon)		**21.7	8.9	(X)	(5)
331309	Other ferroalloys, including silvery iron		*32.6	33.4	31.3	12.0
	Scrap (purchased only):					
999811	Iron and steel		1,844.1	154.0	1,299.3	51.3
999808	Aluminum and aluminum-base alloy		2.9	1.6	.2	.1
999812	Copper and copper-base alloy				.3	.2
144603	Sand		*1,249.3	30.8	1,191.9	14.0
325501	Clay refractories		(S)	10.6	87.2	5.4
329701	Nonclay refractories	1,000 s. tons..	(S)	7.8	27.8	3.5
970099	All other materials and components, parts, containers, and supplies, excluding coal and coke	.....	(X)	348.0	(X)	5167.2
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	55.2	(X)	27.8
	INDUSTRY 3361, ALUMINUM FOUNDRIES					
	Materials, parts, containers, and supplies	.....	(X)	1,052.8	(X)	483.7
331051	Pig iron, excluding silvery iron	1,000 s. tons..	59.4	8.5	13.2	1.0
	Nonferrous metals, alloys, and ferroalloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed		108.7	104.0	56.5	31.4
333405	Aluminum-base alloys		538.1	517.7	494.2	236.6
333121	Copper, unalloyed (cathodes, ingot, cakes, slabs, etc.)		1.4	1.9	1.6	1.2
334123	Copper-base alloy raw materials (ingot, billets, shot, waffle, hardeners, etc.)		8.5	11.9	8.9	9.2
333348	Zinc and zinc-base alloys		63.3	41.6	56.2	23.0
333973	Magnesium and magnesium-base alloys		2.9	6.2	3.5	2.4
331320	Ferrochromium					
331313	Ferromanganese, silicomanganese, and manganese		4.6	4.7	(X)	1.3
331331	Ferrosilicon (over 8 percent silicon)					
331309	Other ferroalloys, including silvery iron					
	Scrap (purchased scrap only):					
999811	Iron and steel		3.6	.5	(S)	.1
999808	Aluminum and aluminum-base alloy		96.4	63.5	73.9	27.2
999812	Copper and copper-base alloy		.5	.5	1.7	1.1
144603	Sand		186.0	6.0	120.0	2.7
325501	Clay refractories		1.0	.4	1.0	.2
329701	Nonclay refractories	1,000 s. tons..	1.2	.7	1.9	.3
970099	All other materials and components, parts, containers, and supplies	.....	(X)	168.5	(X)	75.2
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	116.2	(X)	70.8
	INDUSTRY 3362, BRASS, BRONZE, AND COPPER FOUNDRIES					
	Materials, parts, containers, and supplies	.....	(X)	240.7	(X)	206.0
331051	Pig iron, excluding silvery iron	1,000 s. tons..	(D)	(D)	(D)	(D)
	Nonferrous metals, alloys, and ferroalloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed		*1.7	1.5	3.0	1.6
333405	Aluminum-base alloys		11.8	13.2	13.7	7.1
333121	Copper, unalloyed (cathodes, ingot, cakes, slabs, etc.)		(S)	15.9	17.8	19.8
334123	Copper-base alloy raw materials (ingot, billets, shot, waffle, hardeners, etc.)		*71.7	91.8	75.2	75.9
333348	Zinc and zinc-base alloys		1.1	.7	2.0	.8
333973	Magnesium and magnesium-base alloys		(D)	(D)	.3	.3
331320	Ferrochromium		(D)	(D)	(D)	(D)
331313	Ferromanganese, silicomanganese, and manganese		(D)	(D)	(D)	(D)
331331	Ferrosilicon (over 8 percent silicon)		(D)	(D)	(X)	(X)
331309	Other ferroalloys, including silvery iron		(D)	(D)	(D)	(D)
	Scrap:					
999811	Iron and steel purchased scrap		(S)	1.3	(D)	(D)
	Nonferrous metal scrap:					
999808	Aluminum and aluminum-base alloy		.5	.2	(D)	(D)
999812	Copper and copper-base alloy	1,000 s.tons...	29.5	31.7	49.7	32.2
144603	Sand	.....	(S)	2.6	(X)	32.9
970099	All other materials and components, parts, containers, and supplies	.....	(X)	28.5		
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	.8	(X)	26.9

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3369, NONFERROUS FOUNDRIES, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	323.4	(X)	225.4
	Nonferrous metals, alloys, and ferroalloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed		2.0	2.0	(S)	.8
333405	Aluminum-base alloy		19.8	19.0	20.3	9.5
333121	Copper, unalloyed (cathodes, ingot, cakes, slabs, etc.)		.2	.5	.2	.3
334123	Copper-base alloy raw materials (ingot, billets, shot, waffle, hardeners, etc.)		1.9	3.0	(S)	1.5
333348	Zinc and zinc-base alloy		147.2	115.5	197.2	81.5
333973	Magnesium and magnesium-base alloy		*9.5	14.9	3.2	3.8
331320	Ferrochromium		-	-		
331313	Ferromanganese, silicomanganese, and manganese		-	-	(S)	1.2
331309	Other ferroalloys, including silvery iron		-	-		
144603	Sand	.....	19.8	.5		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	126.8	(X)	[2]83.7
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	41.7	(X)	43.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified.
n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]For 1972, material code 331313 did not include silicomanganese and manganese.

[4]For 1972, material code 333973 was included with 970099.

[5]For 1972, material codes 331313 and 331331 were included with 970099.

[6]For 1972, material codes 333973 and 331331 were included with 970099.

Smelting and Refining of Nonferrous Metals

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DESCRIPTION OF INDUSTRIES

SMELTING AND REFINING OF NONFERROUS METALS AND ALLOYS

This report shows 1972 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3331	Primary Copper
3332	Primary Lead
3333	Primary Zinc
3334	Primary Aluminum
3339	Primary Nonferrous Metals, N.E.C.
3341	Secondary Nonferrous Metals

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry, and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3331, PRIMARY COPPER

This industry comprises establishments primarily engaged in smelting copper from the ore and in refining copper by electrolytic or other processes. Establishments primarily engaged in rolling, drawing, or extruding copper are classified in Industry 3351, Copper Rolling and Drawing. For a detailed list of products of industry 3331, refer to table 6a, product codes 33311 11 to 33312 13.

The total value of shipments for establishments classified in the Primary Copper industry amounted to $3,918 million in 1977, an increase of 41 percent from 1972. The value of shipments of products classified as primary to the industry was $3,871 million, an increase of 36 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $864 million in 1977, was 77 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 13.1 thousand employees, a decrease of 24 percent from 1972. The leading States in employment were Arizona, Montana, Utah, and Texas, accounting for approximately 70 percent of the industry's 1977 employment. Data for Montana, Utah, and Texas have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Certain products primary to industry 3331 are also primary to industry 3341. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. There were no establishments for which administrative records were used.

INDUSTRY 3332, PRIMARY LEAD

This industry comprises establishments primarily engaged in smelting lead from the ore and in refining lead by any process. Establishments primarily engaged in rolling, drawing, or extruding lead are classified in Industry 3356, Nonferrous Rolling and Drawing, N.E.C. For a detailed list of products of industry 3332, refer to table 6a, product codes 33321 11 to 33323 41.

The total value of shipments for establishments classified in the Primary Lead industry amounted to $700 million in 1977, an increase of 52 percent from 1972. The value of shipments of products classified as primary to the industry was $1,203 million. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $190 million in 1977, was 47 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 2.5 thousand employees, a decrease of 11 percent from 1972. The leading States in employment were Missouri, Texas, Idaho, and Montana, accounting for approximately 90 percent of the industry's 1977 employment. Data for these same States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Certain products primary to industry 3332 are also primary to industry 3341. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. There were no establishments for which administrative records were used.

INDUSTRY 3333, PRIMARY ZINC

This industry comprises establishments primarily engaged in smelting zinc from the ore and in refining zinc by any process. Establishments primarily engaged in rolling, drawing, or extruding zinc are classified in Industry 3356, Nonferrous Rolling and Drawing, N.E.C. For a detailed list of products of industry 3333, refer to table 6a, product codes 33331 11 to 33334 55.

The total value of shipments for establishments classified in the Primary Zinc industry amounted to $431 million in 1977, an increase of 14 percent from 1972. The value of shipments of products classified as primary to the industry was $511 million, an increase of 14 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $114 million in 1977, was 6 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 4.6 thousand employees, a decrease of 27 percent from 1972. The leading States in employment were Pennsylvania, Texas, Illinois, and Oklahoma, accounting for approximately 95 percent of the industry's 1977 employment. Data for these same States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Certain products primary to industry 3333 are also primary to industry 3341. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. There were no establishments for which administrative records were used.

INDUSTRY 3334, PRIMARY ALUMINUM

This industry comprises establishments primarily engaged in producing aluminum from alumina and in refining aluminum by any process. Establishments primarily engaged in rolling, drawing, or extruding aluminum are classified in industries 3353, Aluminum Sheet, Plate, and Foil; 3354, Aluminum Extruded Products, and 3355, Aluminum Rolling and Drawing, N.E.C. For a detailed list of products of industry 3334, refer to table 6a, product codes 33347 11 to 33348 11.

The total value of shipments for establishments classified in the Primary Aluminum industry amounted to $4,648 million in 1977, an increase of 150 percent from 1972. The value of shipments of products classified as primary to the industry was $6,092 million, an increase of 166 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $1,981 million in 1977, was 143 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 28.6 thousand employees, an increase of 12 percent from 1972. The leading States in employment were Washington, Louisiana, Texas, and Alabama, accounting for approximately 50 percent of the industry's 1977 employment. Data for these same States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Certain products primary to industry 3334 are also primary to industries 3341 and 3355. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. There were no establishments for which administrative records were used.

INDUSTRY 3339, PRIMARY NONFERROUS METALS, N.E.C.

This industry comprises establishments primarily engaged in smelting and refining nonferrous metals, not elsewhere classified. Establishments primarily engaged in rolling, drawing, and extruding these nonferrous primary metals are classified in Industry 3356, Nonferrous Rolling and Drawing, N.E.C.; and the production of bullion at the site of the mine is classified in the mining industries. For a detailed list of products of industry 3339, refer to table 6a, product codes 33395 25 to 33397 98.

The total value of shipments for establishments classified in the Primary Nonferrous Metals, N.E.C. industry amounted to $964 million in 1977, an increase of 141 percent from 1972. The value of shipments of products classified as primary to the industry was $1,844 million, an increase of 64 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $430 million in 1977, was 190 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.6 thousand employees, an increase of 28 percent from 1972. The leading States in employment were Texas, Missouri, Utah, and Washington, accounting for approximately 50 percent of the industry's 1977 employment. Data for these same States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Certain products primary to industry 3339 are also primary to industry 3341. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 3341, SECONDARY NONFERROUS METALS

This industry comprises establishments primarily engaged in

recovering nonferrous metals and alloys from new and used scrap and dross. This industry includes establishments engaged in both the recovery and alloying of precious metals. Plants engaged in the recovery of tin through secondary smelting and refining as well as by chemical processes are included in this industry. Establishments primarily engaged in assembling, sorting, and breaking up scrap metal, without smelting and refining, are classified in trade industries. For a detailed list of products of industry 3341, refer to table 6a, product codes 33412 11 to 33418 11.

The total value of shipments for establishments classified in the Secondary Nonferrous Metals industry amounted to $3,558 million in 1977, an increase of 70 percent from 1972. The value of shipments of products classified as primary to the industry was $11,638 million, an increase of 97 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $769 million in 1977, was 87 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 18.9 thousand employees, an increase of 6 percent from 1972. The leading States in employment were Illinois, California, New York, and Pennsylvania, accounting for approximately 40 percent of the industry's 1977 employment.

Certain products primary to industry 3341 are also primary to industries 3331, 3332, 3333, 3334, 3339, and 3355. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3331, PRIMARY COPPER																
1977 Census--	9	27	27	13.1	217.3	10.6	20.6	167.5	864.2	3 062.5	3 918.1	(D)	(NA)	715.2	(NA)	(NA)
1976 ASM----	(NA)	(NA)	(NA)	14.3	221.8	11.3	22.6	169.8	746.0	2 759.7	3 549.7	52.4	1 108.9	566.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	15.5	216.4	12.1	24.1	165.5	357.4	2 644.6	3 113.0	164.6	1 108.0	609.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	17.5	214.3	14.0	27.9	167.2	897.8	3 454.7	4 116.5	133.2	933.6	713.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	17.0	186.0	14.1	28.5	148.6	629.0	2 964.2	3 557.0	131.3	841.1	416.1	(NA)	(NA)
1972 Census--	11	31	31	17.2	173.2	14.4	28.7	138.2	487.8	2 298.5	2 771.1	119.7	748.0	367.6	(NA)	(NA)
1971 ASM----	(NA)	(NA)	(NA)	16.5	147.8	13.5	26.6	116.3	327.4	2 009.2	2 348.3	87.9	644.3	350.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	18.0	154.3	15.1	30.9	123.3	667.4	2 318.6	2 909.5	70.7	585.4	362.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	17.1	137.4	14.6	29.2	111.7	713.6	1 838.5	2 499.7	68.0	507.0	278.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	13.8	104.2	11.6	22.8	82.5	421.7	1 291.6	1 675.3	44.8	472.1	225.8	(NA)	(NA)
1967 Census--	15	32	32	11.6	80.6	9.2	18.1	61.0	262.6	935.0	1 184.1	51.7	434.8	188.8	(NA)	(NA)
1966 ASM----	(NA)	(NA)	(NA)	15.8	113.7	13.4	27.8	91.9	362.5	1 349.0	1 701.1	39.9	(NA)	156.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	15.2	105.1	13.1	26.8	85.1	316.9	1 307.4	1 584.4	16.7	(NA)	145.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	14.9	96.4	12.7	25.1	77.7	255.9	1 076.7	1 363.5	9.2	338.3	133.7	(NA)	(NA)
1963 Census--	13	33	33	14.9	96.1	12.7	25.8	77.9	285.5	970.0	1 245.5	13.1	329.5	166.4	(NA)	(NA)
INDUSTRY 3332, PRIMARY LEAD																
1977 Census--	4	7	7	2.5	40.5	2.0	4.1	30.2	189.5	524.8	699.6	(D)	(NA)	186.0	(NA)	(NA)
1976 ASM----	(NA)	(NA)	(NA)	3.2	43.5	2.6	5.0	33.1	152.3	552.1	711.5	24.0	159.6	169.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	3.1	38.2	2.5	4.9	28.9	123.8	613.4	728.8	13.8	136.1	173.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	3.0	32.8	2.4	4.9	24.7	198.1	669.0	838.2	5.8	117.3	163.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	3.0	29.4	2.4	4.8	22.4	147.0	484.2	609.5	6.6	121.4	158.0	(NA)	(NA)
1972 Census--	12	16	15	2.8	26.5	2.3	4.6	20.2	128.7	366.5	460.9	5.7	118.7	131.5	(NA)	(NA)
1971 ASM----	(NA)	(NA)	(NA)	3.5	29.7	2.7	5.6	21.6	65.4	347.3	443.5	4.5	130.7	105.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	4.1	32.5	3.3	6.6	24.1	78.7	450.3	521.8	12.4	131.5	133.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	3.6	27.8	2.9	5.9	20.8	60.3	468.0	519.3	5.0	102.4	121.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	3.1	22.0	2.4	4.9	16.2	61.5	364.4	408.8	16.0	111.1	112.0	(NA)	(NA)
1967 Census--	14	19	18	2.7	18.9	2.1	4.3	13.3	48.3	270.8	304.0	18.5	101.4	93.5	(NA)	(NA)
1966 ASM----	(NA)	(NA)	(NA)	2.8	18.7	2.3	4.8	14.3	65.0	309.7	367.4	12.0	(NA)	73.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	2.6	16.6	2.2	4.4	12.6	53.0	296.8	342.2	5.3	(NA)	64.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	2.6	16.4	2.2	4.4	12.3	47.0	286.2	327.3	1.5	55.1	56.8	(NA)	(NA)
1963 Census--	6	10	10	2.6	15.0	2.1	4.1	11.2	24.9	228.9	265.1	1.0	54.8	50.0	(NA)	(NA)
INDUSTRY 3333, PRIMARY ZINC																
1977 Census--	8	8	7	4.6	70.5	3.5	6.9	49.3	114.3	308.3	430.7	39.8	(NA)	154.1	83	67
1976 ASM----	(NA)	(NA)	(NA)	4.8	66.5	3.8	7.4	47.9	152.9	372.0	521.6	42.5	238.5	179.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	5.0	63.6	3.9	7.6	44.9	163.5	311.2	430.5	36.1	196.4	168.1	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	5.4	62.7	4.4	8.9	46.1	207.5	455.2	666.4	23.0	190.5	118.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	6.1	62.3	5.0	9.1	47.0	149.2	305.7	445.5	8.9	210.5	85.6	(NA)	(NA)
1972 Census--	10	15	15	6.3	59.3	5.2	10.5	45.2	121.6	255.6	376.4	9.8	225.3	73.6	87	70
1971 ASM----	(NA)	(NA)	(NA)	7.1	61.6	5.8	11.8	47.4	86.3	249.4	355.6	6.4	194.9	72.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	8.5	69.9	7.1	14.3	54.9	123.9	268.8	372.5	6.6	230.3	93.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	8.9	70.1	7.5	15.5	55.8	128.9	266.2	387.4	5.9	224.2	69.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	8.2	62.3	6.9	14.3	49.2	111.0	228.9	343.0	6.6	219.1	57.0	(NA)	(NA)
1967 Census--	10	18	18	8.1	57.8	6.4	13.5	42.9	119.5	220.8	332.8	25.8	216.4	59.5	88	81
1966 ASM----	(NA)	(NA)	(NA)	8.6	57.8	7.0	14.4	43.5	133.8	255.4	379.9	18.9	(NA)	49.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	8.4	53.5	6.9	14.0	40.6	126.7	226.4	356.1	7.3	(NA)	40.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	8.6	51.9	7.1	14.4	39.9	143.3	188.2	336.9	5.1	169.1	38.6	(NA)	(NA)
1963 Census--	7	18	18	8.1	47.8	6.6	13.2	36.2	98.8	173.5	281.5	4.7	165.6	46.0	92	81
INDUSTRY 3334, PRIMARY ALUMINUM																
1977 Census--	13	32	32	28.6	555.0	22.8	45.5	426.3	1 980.9	2 694.5	4 647.8	154.3	(NA)	646.8	95	70
1976 ASM----	(NA)	(NA)	(NA)	26.3	461.6	20.8	41.4	350.9	1 465.9	2 314.1	3 852.9	188.6	3 034.4	582.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	25.3	399.7	19.3	38.2	295.0	1 219.5	1 860.2	2 889.1	227.3	2 882.5	633.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	27.7	386.8	22.4	44.0	297.7	1 330.4	1 688.7	2 957.8	185.5	2 509.4	374.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	27.9	350.7	22.5	45.0	271.0	1 022.3	1 310.6	2 344.8	137.3	2 566.3	242.9	(NA)	(NA)
1972 Census--	12	31	31	25.6	296.2	20.0	39.2	219.8	816.0	1 080.6	1 959.8	136.5	2 405.3	233.7	94	76
1971 ASM----	(NA)	(NA)	(NA)	24.2	256.4	19.1	37.6	189.4	717.7	968.5	1 644.2	48.5	2 005.9	277.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	26.7	259.3	21.4	42.5	195.9	816.3	998.0	1 757.9	117.3	1 969.4	229.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	26.0	239.9	21.0	42.5	181.8	849.2	949.5	1 816.8	128.4	1 853.8	156.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	25.0	208.4	20.1	40.0	156.5	875.1	835.3	1 724.3	120.3	1 749.6	169.6	(NA)	(NA)
1967 Census--	10	25	24	23.8	190.9	19.2	38.4	145.2	811.8	841.6	1 608.7	151.7	1 654.8	176.8	97	78
1966 ASM----	(NA)	(NA)	(NA)	21.1	168.1	17.1	34.7	127.4	725.1	776.1	1 496.2	65.8	(NA)	113.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	20.7	156.6	16.8	33.5	119.9	634.9	707.9	1 364.7	60.5	(NA)	109.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	20.3	146.6	16.7	32.0	111.9	549.2	653.2	1 191.4	51.8	1 324.6	129.6	(NA)	(NA)
1963 Census--	7	23	22	18.1	134.1	14.5	29.5	101.4	499.6	571.9	1 090.0	62.2	1 286.2	106.5	100	75

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3339, PRIMARY NONFERROUS METALS, N.E.C.																
1977 Census--	81	85	26	8.6	148.8	6.0	12.1	95.1	429.5	553.3	963.9	97.1	(NA)	208.5	90	44
1976 ASM----	(NA)	(NA)	(NA)	10.6	169.7	7.3	15.8	108.5	462.4	910.6	1 334.8	123.4	1 144.3	368.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.9	125.7	6.3	13.0	83.6	547.2	443.4	833.8	157.2	939.8	314.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	9.5	118.5	6.7	14.2	76.3	331.4	460.5	804.2	238.7	679.1	134.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	6.8	76.4	4.8	9.7	49.0	195.7	298.4	481.8	31.1	363.3	103.0	(NA)	(NA)
1972 Census--	71	84	32	6.7	71.7	4.7	9.1	42.4	151.5	240.8	395.9	20.6	316.6	86.1	84	27
1971 ASM----	(NA)	(NA)	(NA)	7.9	76.6	5.4	11.2	47.4	173.7	332.6	499.0	29.1	275.6	118.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	8.2	76.7	5.6	12.0	47.8	175.7	322.5	487.2	31.0	253.6	104.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	8.4	72.2	6.1	13.0	47.3	166.3	356.9	522.5	34.8	261.2	98.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	7.8	64.0	5.6	11.6	41.6	149.7	270.9	416.8	27.4	206.1	79.6	(NA)	(NA)
1967 Census--	41	50	29	7.2	56.9	5.2	11.2	38.1	139.3	158.1	284.4	25.1	188.0	73.2	87	40
1966 ASM----	(NA)	(NA)	(NA)	7.0	53.5	5.3	11.3	37.1	129.5	183.8	309.2	31.0	(NA)	82.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	5.9	42.6	4.5	9.4	29.5	100.9	143.6	246.8	19.8	(NA)	57.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	4.5	31.9	3.4	7.3	22.6	93.7	115.4	204.4	9.2	175.3	59.6	(NA)	(NA)
1963 Census--	32	35	26	5.1	34.8	3.8	8.1	24.7	103.8	115.5	212.2	6.4	171.3	55.8	83	39
INDUSTRY 3341, SECONDARY NONFERROUS METALS																
1977 Census--	394	460	200	18.9	269.8	14.0	28.4	169.7	769.3	2 792.2	3 558.0	114.3	(NA)	485.2	97	26
1976 ASM----	(NA)	(NA)	(NA)	17.8	236.7	12.9	26.3	147.4	632.5	2 585.6	3 178.9	120.3	563.0	430.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.1	207.6	12.4	25.1	129.3	575.5	2 281.0	2 871.8	61.6	481.6	375.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	19.1	214.4	14.6	29.7	139.3	1 019.3	2 905.7	3 987.6	46.4	485.9	405.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	17.4	176.0	12.9	26.5	112.9	555.7	1 975.0	2 512.7	28.5	374.0	257.7	(NA)	(NA)
1972 Census--	325	381	184	17.8	170.1	13.1	26.6	108.2	410.9	1 685.0	2 097.2	34.8	427.6	205.9	98	28
1971 ASM----	(NA)	(NA)	(NA)	15.7	137.2	11.5	24.2	87.5	281.6	1 350.1	1 644.0	23.6	285.0	180.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	17.3	138.1	13.0	27.2	89.1	327.3	1 482.4	1 805.1	[6]48.5	319.1	195.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	18.4	144.6	13.9	29.4	94.5	364.5	1 573.7	1 916.8	40.0	265.5	209.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	17.8	133.9	13.4	28.3	87.3	306.8	1 419.9	1 725.1	36.5	241.4	175.7	(NA)	(NA)
1967 Census--	351	403	182	17.2	122.8	12.8	26.6	78.4	271.2	1 314.0	1 586.0	23.6	223.0	174.6	89	26
1966 ASM----	(NA)	(NA)	(NA)	16.8	116.9	12.5	26.3	74.4	293.3	1 409.9	1 709.2	29.6	(NA)	172.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	16.1	107.9	11.8	24.9	68.0	240.1	1 252.4	1 493.6	27.6	(NA)	165.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	16.5	110.9	11.9	25.9	70.0	265.6	1 027.2	1 290.6	17.2	192.7	156.5	(NA)	(NA)
1963 Census--	406	459	179	15.4	96.3	11.3	23.8	60.5	228.2	823.1	1 045.5	17.9	185.6	143.1	94	26

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3331, PRIMARY COPPER											
1977 Census--	16 633	(NA)	81	1 937	8.14	78	83	(NA)	66 149	25	42.04
1976 ASM----	15 510	77 545	79	2 000	7.51	77	83	31	52 167	29	33.00
1975 ASM----	13 961	71 483	78	1 991	6.86	84	91	35	23 058	60	14.82
1974 ASM----	12 245	53 348	80	1 992	5.99	83	89	22	51 302	23	32.17
1973 ASM----	10 941	49 476	82	2 021	5.21	83	88	23	37 000	29	22.07
1972 Census--	10 069	43 488	83	1 993	4.81	82	89	26	28 360	35	16.99
1971 ASM----	8 957	39 048	81	1 970	4.37	85	91	27	19 842	45	12.30
1970 ASM----	8 572	32 522	83	2 046	3.99	79	84	20	37 077	23	21.59
1969 ASM----	8 035	29 649	85	2 000	3.82	73	79	20	41 730	19	24.43
1968 ASM----	7 550	34 210	84	1 965	3.61	77	83	28	30 557	24	18.49
1967 Census--	6 948	37 482	79	1 967	3.37	78	85	36	22 637	30	14.50
1966 ASM----	7 196	(NA)	84	2 074	3.30	79	85	(NA)	22 943	31	13.03
1965 ASM----	6 914	(NA)	86	2 045	3.17	82	89	(NA)	20 848	33	11.82
1964 ASM----	6 469	22 704	85	1 976	3.09	78	86	24	17 174	37	10.19
1963 Census--	6 449	22 114	85	2 031	3.01	77	85	26	19 161	33	11.06
INDUSTRY 3332, PRIMARY LEAD											
1977 Census--	16 028	(NA)	78	2 071	7.38	75	80	(NA)	75 036	21	46.39
1976 ASM----	13 593	49 875	81	1 923	6.62	77	83	22	47 593	28	30.46
1975 ASM----	12 322	43 903	80	1 960	5.89	84	89	18	39 935	30	25.26
1974 ASM----	10 933	39 100	80	2 041	5.04	79	83	13	66 033	16	40.42
1973 ASM----	9 800	40 466	80	2 000	4.66	79	84	19	49 000	20	30.62
1972 Census--	9 464	42 392	82	2 000	4.39	79	85	25	45 964	20	27.97
1971 ASM----	8 485	37 342	77	2 074	3.85	78	85	29	18 685	45	11.67
1970 ASM----	7 926	32 073	80	2 000	3.65	86	92	25	19 195	41	11.92
1969 ASM----	7 722	28 444	80	2 034	3.52	90	95	19	16 750	46	10.22
1968 ASM----	7 096	35 838	77	2 041	3.30	89	94	27	19 838	35	12.55
1967 Census--	7 000	37 555	77	2 047	3.09	89	95	33	17 888	39	11.23
1966 ASM----	6 678	(NA)	82	2 086	2.97	84	89	(NA)	23 214	28	13.54
1965 ASM----	6 384	(NA)	84	2 000	2.86	86	91	(NA)	20 384	31	12.04
1964 ASM----	6 307	21 192	84	2 000	2.79	87	92	16	18 076	34	10.68
1963 Census--	5 769	21 076	80	1 952	2.73	86	92	20	9 576	60	6.07
INDUSTRY 3333, PRIMARY ZINC											
1977 Census--	15 451	(NA)	76	1 971	7.17	71	87	(NA)	25 059	61	16.63
1976 ASM----	13 854	49 687	79	1 947	6.47	71	84	45	31 854	43	20.66
1975 ASM----	12 720	39 280	78	1 948	5.90	72	87	45	32 700	38	21.51
1974 ASM----	11 611	35 277	81	2 022	5.17	68	77	28	38 425	30	23.31
1973 ASM----	10 213	34 508	81	1 820	5.16	68	82	47	24 459	41	16.39
1972 Census--	9 412	35 761	82	2 019	4.30	67	83	59	19 301	48	11.58
1971 ASM----	8 676	27 450	81	2 034	4.01	70	87	54	12 154	71	7.31
1970 ASM----	8 223	27 094	83	2 014	3.83	72	90	61	14 576	56	8.66
1969 ASM----	7 876	25 191	84	2 066	3.60	68	86	57	14 483	54	8.31
1968 ASM----	7 597	26 720	84	2 072	3.44	66	84	64	13 536	56	7.76
1967 Census--	7 135	26 716	79	2 109	3.17	66	83	65	14 753	48	8.85
1966 ASM----	6 720	(NA)	81	2 057	3.02	67	82	(NA)	15 558	43	9.29
1965 ASM----	6 369	(NA)	82	2 028	2.90	63	78	(NA)	15 083	42	9.05
1964 ASM----	6 034	19 662	82	2 028	2.77	55	71	50	16 662	36	9.95
1963 Census--	5 901	20 444	81	2 000	2.74	61	78	58	12 197	48	7.48
INDUSTRY 3334, PRIMARY ALUMINUM											
1977 Census--	19 426	(NA)	79	1 994	9.36	57	69	(NA)	69 336	28	43.52
1976 ASM----	17 551	115 376	79	1 990	8.47	60	72	78	55 737	31	35.40
1975 ASM----	15 798	113 932	76	1 979	7.72	64	78	99	48 201	32	31.92
1974 ASM----	13 963	90 592	80	1 964	6.76	57	70	84	48 028	29	30.23
1973 ASM----	12 569	91 982	80	2 000	6.02	55	70	109	36 641	34	22.71
1972 Census--	11 570	93 957	78	1 960	5.60	55	70	122	31 875	36	20.81
1971 ASM----	10 595	82 888	78	1 968	5.03	58	74	121	29 657	35	19.08
1970 ASM----	9 711	73 760	80	1 985	4.60	56	71	112	30 573	31	19.20
1969 ASM----	9 226	71 300	80	2 023	4.27	52	65	102	32 661	28	19.98
1968 ASM----	8 336	69 984	80	1 990	3.91	48	60	101	35 004	23	21.87
1967 Census--	8 021	69 529	80	2 000	3.78	52	64	102	34 109	23	21.14
1966 ASM----	7 966	(NA)	81	2 029	3.67	51	63	(NA)	34 364	23	20.89
1965 ASM----	7 565	(NA)	81	1 994	3.57	51	63	(NA)	30 671	24	18.95
1964 ASM----	7 221	65 251	82	1 916	3.49	54	67	111	27 054	26	17.16
1963 Census--	7 408	71 060	80	2 034	3.43	52	64	118	27 602	26	16.93

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3339, PRIMARY NONFERROUS METALS, N.E.C.										
1977 Census--	17 389	(NA)	70	2 006	7.84	57	72	(NA)	50 186	34	35.44
1976 ASM----	16 009	107 952	68	2 164	6.86	68	80	85	43 622	36	29.26
1975 ASM----	14 123	105 595	70	2 063	6.43	53	68	112	61 463	22	42.09
1974 ASM----	12 473	71 484	70	2 119	5.37	57	71	84	34 884	35	23.33
1973 ASM----	11 235	53 426	70	2 020	5.05	61	77	75	28 779	39	20.17
1972 Census--	10 701	47 253	70	1 936	4.65	60	78	79	22 611	47	16.64
1971 ASM----	9 696	34 886	68	2 074	4.23	66	82	55	21 987	44	15.50
1970 ASM----	9 353	30 926	68	2 142	3.98	66	81	52	21 426	43	14.64
1969 ASM----	8 595	31 095	72	2 131	3.63	68	82	49	19 797	43	12.79
1968 ASM----	8 205	26 423	71	2 071	3.58	64	80	49	19 192	42	12.90
1967 Census--	7 902	26 111	72	2 153	3.40	55	75	66	19 347	40	12.43
1966 ASM----	7 642	(NA)	75	2 132	3.28	59	76	(NA)	18 500	41	11.46
1965 ASM----	7 220	(NA)	76	2 088	3.13	58	75	(NA)	17 101	42	10.73
1964 ASM----	7 088	38 955	75	2 147	3.09	56	72	85	20 822	34	12.83
1963 Census--	6 823	33 588	74	2 131	3.04	54	70	80	20 352	33	12.81
	INDUSTRY 3341, SECONDARY NONFERROUS METALS										
1977 Census--	14 254	(NA)	74	2 023	5.97	78	86	(NA)	40 637	35	27.10
1976 ASM----	13 297	31 629	72	2 038	5.60	81	88	17	35 533	37	24.04
1975 ASM----	12 140	28 163	72	2 024	5.15	79	86	16	33 654	36	22.92
1974 ASM----	11 225	25 439	76	2 034	4.69	72	78	12	53 366	21	34.31
1973 ASM----	10 114	21 494	74	2 054	4.26	78	85	14	31 936	31	20.96
1972 Census--	9 556	24 022	73	2 030	4.06	80	88	20	23 084	41	15.44
1971 ASM----	8 738	18 152	73	2 104	3.61	82	90	17	17 936	48	11.63
1970 ASM----	7 982	18 445	75	2 092	3.27	82	89	17	18 919	42	12.03
1969 ASM----	7 858	14 429	75	2 115	3.21	82	89	13	19 809	39	12.39
1968 ASM----	7 522	13 561	75	2 111	3.08	82	90	13	17 235	43	10.84
1967 Census--	7 139	12 965	74	2 078	2.94	82	90	14	15 767	45	10.19
1966 ASM----	6 958	(NA)	74	2 104	2.82	82	89	(NA)	17 458	39	11.15
1965 ASM----	6 701	(NA)	73	2 110	2.73	83	91	(NA)	14 913	44	9.64
1964 ASM----	6 721	11 678	72	2 176	2.70	79	88	14	16 096	41	10.25
1963 Census--	6 253	12 051	73	2 106	2.54	78	87	17	14 818	42	9.58

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3331, PRIMARY COPPER													
United States	-	**27**	**27**	**13.1**	**217.3**	**10.6**	**20.6**	**167.5**	**864.2**	**3 062.5**	**3 918.1**	**(D)**	**17.2**	**487.8**
Middle Atlantic Division:													
New York	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
New Jersey	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
South Atlantic Division:														
Maryland	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West South Central Division:														
Texas	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mountain Division:														
Montana	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Mexico	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Arizona	-	9	9	3.7	59.0	3.0	5.7	45.0	136.7	962.4	1 053.5	(D)	3.4	182.3
Utah	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Nevada	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
Washington	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
INDUSTRY 3332, PRIMARY LEAD														
United States	-	**7**	**7**	**2.5**	**40.5**	**2.0**	**4.1**	**30.2**	**189.5**	**524.8**	**699.6**	**(D)**	**2.8**	**128.7**
West North Central Division:														
Missouri	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Nebraska	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Texas	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Mountain Division:														
Montana	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Idaho	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
INDUSTRY 3333, PRIMARY ZINC														
United States	-	**8**	**7**	**4.6**	**70.5**	**3.5**	**6.9**	**49.3**	**114.3**	**308.3**	**430.7**	**39.8**	**6.3**	**121.6**
Middle Atlantic Division:														
Pennsylvania	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East North Central Division:														
Illinois	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Oklahoma	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Texas	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mountain Division:														
Idaho	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
INDUSTRY 3334, PRIMARY ALUMINUM														
United States	-	**32**	**32**	**28.6**	**555.0**	**22.8**	**45.5**	**426.3**	**1 980.9**	**2 694.5**	**4 647.8**	**154.3**	**25.6**	**816.0**
Middle Atlantic Division:														
New York	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East North Central Division:														
Ohio	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West North Central Division:														
Missouri	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Maryland	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West Virginia	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
North Carolina	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East South Central Division:														
Kentucky	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Tennessee	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Alabama	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West South Central Division:														
Arkansas	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Louisiana	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Texas	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Mountain Division:														
Montana	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pacific Division:														
Washington	-	7	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Oregon	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3339, PRIMARY NONFERROUS METALS, N.E.C.														
United States	-	**85**	**26**	**8.6**	**148.8**	**6.0**	**12.1**	**95.1**	**429.5**	**553.3**	**963.9**	**97.1**	**6.7**	**151.5**
Middle Atlantic Division:														
New York	-	15	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	14.8
Pennsylvania	-	7	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East North Central Division:														
Ohio	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West North Central Division:														
Missouri	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Louisiana	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	-	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mountain Division:														
Utah	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
Washington	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
INDUSTRY 3341, SECONDARY NONFERROUS METALS														
United States	-	**460**	**200**	**18.9**	**269.8**	**14.0**	**28.4**	**169.7**	**769.3**	**2 792.2**	**3 558.0**	**114.3**	**17.8**	**410.9**
New England Division:														
Massachusetts	-	16	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Rhode Island	-	10	4	0.2	3.3	0.1	0.3	1.6	43.0	60.1	101.5	1.2	(NA)	(NA)
Connecticut	E5	8	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	41	12	1.7	26.9	1.2	2.5	16.0	86.3	334.3	410.3	6.2	1.6	42.4
New Jersey	E1	25	12	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.4	27.0
Pennsylvania	-	43	17	1.6	22.4	1.3	2.5	14.6	41.8	225.3	265.0	7.9	2.1	37.2
East North Central Division:														
Ohio	-	33	19	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	32.6
Indiana	-	15	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	11.1
Illinois	-	36	26	2.4	38.0	1.8	3.7	23.1	67.0	468.6	534.3	(D)	2.6	54.1
Michigan	E1	19	6	0.8	11.1	0.6	1.1	7.0	28.7	102.6	137.9	(D)	0.7	32.8
Wisconsin	E1	9	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	7.5
South Atlantic Division:														
Delaware	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Maryland	E2	9	3	0.2	2.0	0.1	0.2	1.2	6.6	18.4	24.3	0.3	(NA)	(NA)
Virginia	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	4.5
South Carolina	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	7	4	0.6	7.7	0.5	1.1	5.7	26.7	47.2	73.2	2.7	(NA)	(NA)
Florida	-	11	4	0.3	3.4	0.2	0.4	2.3	17.5	37.1	54.5	0.4	AA	(D)
East South Central Division:														
Tennessee	-	6	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	-	11	6	0.8	11.1	0.7	1.3	8.3	26.1	116.2	142.3	3.9	BB	(D)
West South Central Division:														
Arkansas	-	4	3	0.3	3.1	0.2	0.4	1.9	11.0	53.9	61.6	1.4	(NA)	(NA)
Louisiana	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Texas	-	25	9	1.1	15.5	0.7	1.4	8.4	35.7	99.6	132.6	5.4	0.8	27.9
Pacific Division:														
Washington	-	6	3	0.3	3.4	0.2	0.4	2.3	11.1	20.1	30.6	0.7	AA	(D)
California	-	60	24	1.9	25.8	1.4	2.7	15.6	64.6	299.2	370.6	5.7	1.7	36.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Primary copper (SIC 3331)	Primary lead (SIC 3332)	Primary zinc (SIC 3333)	Primary aluminum (SIC 3334)	Primary nonferrous metals, n.e.c. (SIC 3339)	Secondary nonferrous metals (SIC 3341)
Primary product specialization ratio[1]	percent	(NA)	(NA)	B3	95	90	97
Coverage ratio[2]	do	(NA)	(NA)	67	70	44	26
All establishments	number	27	7	8	32	85	460
With 1 to 19 employees	do	-	-	1	-	59	260
With 20 to 99 employees	do	1	-	1	-	9	149
With 100 employees or more	do	26	7	6	32	17	51
All employees, average for year	1,000	13.1	2.5	4.6	28.6	8.6	18.9
Payroll for year, all employees	mil. dol.	217.3	40.5	70.5	555.0	148.8	269.8
Production workers:							
Average for year	1,000	10.6	2.0	3.5	22.8	6.0	14.0
March	do	11.4	2.1	3.6	22.1	5.8	13.6
May	do	11.6	1.9	3.5	22.5	5.9	14.1
August	do	8.5	1.7	3.3	23.3	6.1	14.2
November	do	10.9	2.2	3.5	23.4	6.3	14.2
Hours	millions	20.6	4.1	6.9	45.5	12.1	28.4
January to March	do	5.8	1.1	1.9	11.1	3.0	6.9
April to June	do	5.9	1.0	1.7	11.3	3.0	7.2
July to September	do	3.4	0.8	1.5	11.4	3.0	7.2
October to December	do	5.5	1.2	1.8	11.7	3.2	7.1
Wages	mil. dol.	167.5	30.2	49.3	426.3	95.1	169.7
Cost of materials, etc.	do	3 062.5	524.8	308.3	2 694.5	553.3	2 792.2
Materials, parts, containers, etc., consumed	do	2 885.7	489.4	249.3	1 905.7	424.9	2 393.8
Resales	do	(D)	-	(D)	(D)	36.6	250.1
Fuels consumed	do	89.0	30.1	30.4	91.1	31.4	68.0
Purchased electric energy	do	33.9	4.2	21.0	604.0	53.2	22.9
Contract work	do	(D)	1.1	(D)	(D)	7.2	57.5
Value of shipments, including resales	do	3 918.1	699.6	430.7	4 647.8	963.9	3 558.0
Value of resales	do	(D)	-	(D)	(D)	45.4	271.7
Value added by manufacture	do	864.2	189.5	114.3	1 980.9	429.5	769.3
Manufacturers' inventories:							
Beginning of year	do	700.0	162.3	176.6	590.1	190.5	459.5
Finished products	do	200.0	41.6	78.9	144.6	84.3	170.9
Work in process	do	437.4	97.2	23.0	130.8	49.2	96.0
Materials, supplies, fuel, etc.	do	62.5	23.5	74.6	314.6	56.9	192.6
End of year	do	715.2	186.0	154.1	646.8	208.5	485.2
Finished products	do	275.3	29.5	62.1	141.8	94.5	159.2
Work in process	do	370.8	124.1	31.8	161.1	58.0	111.1
Materials, supplies, fuel, etc.	do	69.1	32.4	60.3	343.9	55.9	214.9
Capital expenditures for plant and equipment	do	(D)	(D)	39.9	194.1	97.7	122.4
New capital expenditures	do	(D)	(D)	39.8	154.3	97.1	114.3
New buildings and other structures	do	(D)	(D)	5.3	22.6	7.4	36.7
New machinery and equipment	do	(D)	(D)	34.6	131.7	89.7	77.6
Used capital expenditures	do	(D)	(D)	(Z)	39.8	0.6	8.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Primary copper (SIC 3331)		Primary lead (SIC 3332)		Primary zinc (SIC 3333)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	2.7	1	1.5	1	0.5	4
Response coverage ratio[2] (percent)	63	(X)	63	(X)	65	(X)
Machinery	7.5	1	(D)	1	(D)	14
Response coverage ratio[2] (percent)	47	(X)	42	(X)	62	(X)
Cost of purchased communication services	0.6	1	(D)	1	(D)	22
Response coverage ratio[2] (percent)	60	(X)	64	(X)	69	(X)
Rental payments	2.6	1	0.9	1	(0.7)	24
Buildings and other structures	-	(X)	0.5	1	(0.1)	71
Machinery and equipment	2.6	1	0.4	1	0.6	11
Supplemental labor costs	75.4	1	10.8	1	19.5	1
Legal costs	19.9	1	3.0	1	5.9	1
Voluntary costs	55.4	1	7.8	1	13.6	1
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	333.3	1	69.7	1	40.3	2
New capital expenditures	(D)	1	(D)	1	5.4	5
Used capital expenditures	(D)	1	(D)	1	-	(X)
Retirements	(D)	1	(D)	1	4.0	1
End of year	343.1	1	132.1	1	41.6	2
Machinery and equipment:						
Beginning of year	1,204.7	1	81.9	1	225.0	2
New capital expenditures	(D)	1	(D)	1	35.6	2
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(Z)	(X)	(Z)	(X)
Computers and peripheral data processing equipment[3]	-	(X)	(Z)	(X)	-	(X)
All other[3]	(D)	9	(D)	(A)	(D)	56
New machinery and equipment, n.s.k.[4]	-	(X)	(Z)	(X)	(D)	(A)
Used capital expenditures	(D)	1	(D)	(X)	-	(X)
Retirements	(D)	1	(D)	1	9.3	2
End of year	1,405.6	1	82.0	1	251.3	2
Total gross value of depreciable assets:						
Beginning of year	1,538.0	1	151.5	1	265.3	2
New capital expenditures	(D)	1	(D)	1	41.0	1
Used capital expenditures	(D)	1	(D)	(X)	-	(X)
Retirements	(D)	1	(D)	1	13.3	1
End of year	1,748.7	1	214.2	1	292.9	2
Depreciation charges during 1977	68.0	1	7.4	1	12.3	1
Buildings and other structures	9.3	1	4.0	1	1.2	3
Machinery and equipment	58.7	1	3.4	1	11.1	1

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Primary aluminum (SIC 3334)		Primary nonferrous metals, n.e.c. (SIC 3339)		Secondary nonferrous metals (SIC 3341)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	9.1	1	2.0	4	2.8	9
Response coverage ratio[2] (percent)	64	(X)	60	(X)	51	(X)
Machinery	14.4	7	9.0	3	19.7	5
Response coverage ratio[2] (percent)	60	(X)	62	(X)	48	(X)
Cost of purchased communication services	2.3	5	(1.5)	22	3.3	13
Response coverage ratio[2] (percent)	59	(X)	85	(X)	54	(X)
Rental payments	19.3	1	2.0	2	9.1	9
Buildings and other structures	4.9	1	(0.2)	18	(2.0)	16
Machinery and equipment	14.4	1	1.8	3	7.1	10
Supplemental labor costs	143.9	1	33.4	2	59.8	2
Legal costs	44.1	1	11.3	2	25.5	3
Voluntary costs	99.7	1	22.1	2	34.3	3
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	876.9	1	105.5	1	171.8	4
New capital expenditures	22.2	1	7.3	5	35.4	5
Used capital expenditures	-	(X)	-	(X)	(1.1)	30
Retirements	3.2	1	1.4	5	2.6	8
End of year	896.1	1	111.4	2	205.7	3
Machinery and equipment:						
Beginning of year	2,410.3	1	514.6	2	468.3	3
New capital expenditures	136.4	1	86.3	1	74.8	5
Automobiles, trucks, etc., for highway use[3]	(1.6)	(A)	(D)	(A)	(2.0)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(0.5)	(A)
All other[3]	(132.7)	15	(84.8)	24	(55.2)	36
New machinery and equipment, n.s.k.[4]	(D)	(A)	(1.0)	(A)	(17.1)	(A)
Used capital expenditures	39.8	1	(0.8)	40	7.9	12
Retirements	31.0	1	31.7	1	12.0	4
End of year	2,555.5	1	570.0	2	539.0	3
Total gross value of depreciable assets:						
Beginning of year	3,287.3	1	620.1	2	640.1	3
New capital expenditures	158.6	1	93.6	2	110.3	5
Used capital expenditures	39.8	1	(0.8)	39	9.0	14
Retirements	34.2	1	33.0	1	14.7	5
End of year	3,451.6	1	681.5	2	744.7	3
Depreciation charges during 1977	115.6	1	47.6	2	49.3	5
Buildings and other structures	24.7	1	4.3	2	8.1	6
Machinery and equipment	90.9	1	43.3	2	41.2	6

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3331, PRIMARY COPPER												
Total	-	27	13.1	217.3	10.6	20.6	167.5	864.2	3 062.5	3 918.1	(D)	715.2
Establishments with an average of—												
50 to 99 employees	-	1	(0.6)	(8.7)	(0.4)	(0.9)	(6.9)	(9.4)	(187.1)	(197.5)	(D)	(19.9)
100 to 249 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	12	4.3	71.5	3.5	6.8	55.7	263.9	972.6	1 216.8	(D)	282.7
500 to 999 employees	-	9	(8.2)	(137.1)	(6.7)	(12.9)	(104.9)	(590.9)	(1 902.8)	(2 503.8)	(D)	(412.6)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 3332, PRIMARY LEAD												
Total	-	7	2.5	40.5	2.0	4.1	30.2	189.5	524.8	699.6	(D)	186.0
Establishments with an average of—												
100 to 249 employees	-	1	(2.5)	(40.5)	(2.0)	(4.1)	(30.2)	(189.5)	(524.8)	(699.6)	(D)	(186.0)
250 to 499 employees	-	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 3333, PRIMARY ZINC												
Total	-	8	4.6	70.5	3.5	6.9	49.3	114.3	308.3	430.7	39.8	154.1
Establishments with an average of—												
1 to 4 employees	-	-	-	-	-	-	-	-	-	-	-	-
5 to 9 employees	-	1	(4.6)	(70.5)	(3.5)	(6.9)	(49.3)	(114.3)	(308.3)	(430.7)	(39.8)	(154.1)
20 to 49 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 3334, PRIMARY ALUMINUM												
Total	-	32	28.6	555.0	22.8	45.5	426.3	1 980.9	2 694.5	4 647.8	154.3	646.8
Establishments with an average of—												
100 to 249 employees	-	2	(2.2)	(43.4)	(1.7)	(3.3)	(31.3)	(136.5)	(264.5)	(398.0)	(15.2)	(49.7)
250 to 499 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	17	12.9	242.7	10.0	19.9	180.7	966.8	1 390.5	2 352.3	62.9	368.5
1,000 to 2,499 employees	-	8	(13.4)	(268.9)	(11.1)	(22.3)	(214.3)	(877.6)	(1 039.4)	(1 897.5)	(76.2)	(228.6)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 3339, PRIMARY NONFERROUS METALS, N.E.C.												
Total	-	85	8.6	148.8	6.0	12.1	95.1	429.5	553.3	963.9	97.1	208.5
Establishments with an average of—												
1 to 4 employees	E9	38	(Z)	0.8	(Z)	0.1	0.5	1.1	4.9	6.2	0.5	1.8
5 to 9 employees	E8	14	0.1	1.4	0.1	0.1	0.9	3.1	6.9	10.0	(8.4)	2.2
10 to 19 employees	E6	7	(0.1)	(2.4)	(0.1)	(0.2)	(1.4)	(3.8)	(11.3)	(15.0)	(D)	(3.0)
20 to 49 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	7	0.5	6.5	0.4	0.7	4.3	17.4	50.9	68.1	2.7	9.9
100 to 249 employees	-	9	(7.9)	(137.7)	(5.4)	(11.0)	(88.0)	(404.1)	(479.3)	(864.6)	(85.5)	(191.6)
250 to 499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	50	0.2	3.4	0.2	0.3	2.2	7.0	16.9	23.9	2.0	6.3
INDUSTRY 3341, SECONDARY NONFERROUS METALS												
Total	-	460	18.9	269.8	14.0	28.4	169.7	769.3	2 792.2	3 558.0	114.3	485.2
Establishments with an average of—												
1 to 4 employees	E9	136	0.2	2.9	0.2	0.3	1.9	6.2	28.9	35.0	1.3	4.6
5 to 9 employees	E6	61	0.4	5.7	0.3	0.6	3.3	12.6	52.6	64.8	1.7	9.6
10 to 19 employees	E3	63	0.9	12.8	0.6	1.3	7.4	36.5	137.4	172.2	5.2	21.4
20 to 49 employees	-	84	2.8	40.6	2.1	4.2	24.5	154.6	465.9	618.7	11.9	68.4
50 to 99 employees	-	65	4.7	64.0	3.5	7.0	39.8	170.2	744.9	912.3	17.9	107.4
100 to 249 employees	-	40	6.0	88.2	4.3	8.8	54.3	169.4	807.0	984.2	68.3	151.1
250 to 499 employees	-	10	(3.8)	(55.6)	(2.9)	(6.1)	(38.5)	(219.9)	(555.5)	(770.8)	(8.2)	(122.8)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	176	0.7	9.8	0.6	1.1	6.1	18.8	92.5	111.3	3.7	14.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3331	**Primary copper:**										
	Entire industry	27	13.1	217.3	10.6	20.6	167.5	864.2	3 062.5	3 918.1	(D)
	Establishments with 75 percent specialization or more	23	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33311	Copper smelter products:										
	Establishments with this product class primary	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33312	Refined primary copper:										
	Establishments with this product class primary	14	6.4	105.5	5.2	9.7	79.8	557.1	1 795.3	2 351.8	10.5
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3332	**Primary lead:**										
	Entire industry	7	2.5	40.5	2.0	4.1	30.2	189.5	524.8	699.6	(D)
	Establishments with 75 percent specialization or more	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33321	Lead smelter products:										
	Establishments with this product class primary	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323	Refined primary lead:										
	Establishments with this product class primary	4	1.4	21.7	1.1	2.2	15.9	106.1	316.3	433.8	(D)
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3333	**Primary zinc:**										
	Entire industry	8	4.6	70.5	3.5	6.9	49.3	114.3	308.3	430.7	39.8
	Establishments with 75 percent specialization or more	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33334	Refined primary zinc and zinc-base alloys:										
	Establishments with this product class primary	7	4.6	70.4	3.5	6.9	49.3	114.3	308.3	430.7	39.6
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3334	**Primary aluminum:**										
	Entire industry	32	28.6	555.0	22.8	45.5	426.3	1 980.9	2 694.5	4 647.8	154.3
	Establishments with 75 percent specialization or more	29	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33347	Primary aluminum ingot, except billet:										
	Establishments with this product class primary	28	25.9	502.9	20.8	41.6	390.9	1 843.7	2 531.8	4 349.4	149.9
	Establishments with 75 percent specialization or more in class	20	17.9	349.5	14.5	28.8	273.2	1 378.4	1 915.5	3 294.7	111.5
33348	Primary aluminum extrusion billet:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3339	**Primary nonferrous metals, n.e.c.:**										
	Entire industry	85	8.6	148.8	6.0	12.1	95.1	429.5	553.3	963.9	97.1
	Establishments with 75 percent specialization or more	74	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33395	Refined precious metals and precious alloys:										
	Establishments with this product class primary	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33397	Other primary nonferrous metals:										
	Establishments with this product class primary	21	7.8	138.5	5.5	11.1	89.4	407.9	503.8	890.0	84.5
	Establishments with 75 percent specialization or more in class	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3341	**Secondary nonferrous metals:**										
	Entire industry	460	18.9	269.8	14.0	28.4	169.7	769.3	2 792.2	3 558.0	114.3
	Establishments with 75 percent specialization or more	437	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33412	Secondary copper and copper-base alloys:										
	Establishments with this product class primary	30	3.3	49.1	2.4	4.9	30.7	104.6	620.4	719.2	7.6
	Establishments with 75 percent specialization or more in class	23	2.1	29.6	1.5	3.1	18.4	47.0	364.4	416.7	6.2
33413	Secondary lead and lead-base and tin-base alloys:										
	Establishments with this product class primary	65	5.0	64.7	3.7	7.5	41.2	188.2	542.7	726.3	59.5
	Establishments with 75 percent specialization or more in class	51	3.9	48.2	3.0	5.8	31.2	150.2	349.4	494.3	(D)
33414	Secondary zinc and zinc-base alloys:										
	Establishments with this product class primary	11	0.6	8.3	0.4	0.8	5.2	9.2	67.1	81.3	1.3
	Establishments with 75 percent specialization or more in class	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33415	Secondary precious metals and their alloys:										
	Establishments with this product class primary	21	0.7	11.1	0.4	0.9	5.2	68.8	194.3	259.8	3.8
	Establishments with 75 percent specialization or more in class	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33416	Other secondary nonferrous metals and alloys:										
	Establishments with this product class primary	17	0.7	9.8	0.4	0.9	5.0	29.0	71.1	99.4	1.7
	Establishments with 75 percent specialization or more in class	15	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33417	Secondary aluminum ingot, except billet:										
	Establishments with this product class primary	73	5.9	88.3	4.4	9.0	56.3	280.5	952.1	1 242.4	21.0
	Establishments with 75 percent specialization or more in class	59	3.9	57.2	2.9	5.8	36.5	198.0	622.1	822.1	15.3
33418	Secondary aluminum extrusion billet:										
	Establishments with this product class primary	6	0.4	5.5	0.3	0.7	3.5	23.0	95.5	115.3	2.5
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3331	Primary copper....1977..	3,918.1	3,203.5	511.7	202.9	(1)	3,871.2	3,203.5	667.7	(1)
	1972..	2,771.1	2,336.2	277.2	157.7	(1)	2,847.1	2,336.2	510.9	(1)
	1967..	1,184.1	1,018.5	81.8	83.8	(1)	1,383.3	1,018.5	364.8	(1)
3332	Primary lead....1977..	699.6	(D)	(D)	24.3	(1)	1,203.4	(D)	(D)	(1)
	1972..	460.9	(D)	(D)	18.5	(1)	(D)	(D)	(D)	(1)
	1967..	304.0	(D)	(D)	6.8	(1)	(D)	(D)	(D)	(1)
3333	Primary zinc....1977..	430.7	344.1	71.4	15.2	83	511.1	344.1	167.0	67
	1972..	376.4	312.5	45.0	18.9	87	447.3	312.5	134.8	70
	1967..	332.8	274.6	36.1	22.1	88	339.1	274.6	64.8	81
3334	Primary aluminum....1977..	4,647.8	4,287.5	205.0	155.3	95	6,092.4	4,287.5	1,804.9	70
	1972..	1,959.8	1,750.4	105.6	103.8	94	2,290.6	1,750.4	540.2	76
	1967..	1,608.7	1,535.5	44.1	29.1	97	1,963.5	1,535.5	428.0	78
3339	Primary nonferrous metals, n.e.c....1977..	963.9	815.3	88.5	60.1	90	1,843.5	815.3	1,028.2	44
	1972..	395.9	308.5	57.4	30.0	84	1,125.6	308.5	817.1	27
	1967..	284.4	246.2	27.0	11.2	90	618.5	246.2	372.3	40
3341	Secondary nonferrous metals....1977..	3,558.0	3,036.4	103.5	418.1	97	11,638.1	3,036.4	8,601.7	26
	1972..	2,097.2	1,687.5	33.3	376.4	98	5,922.2	1,687.5	4,234.7	28
	1967..	1,586.0	1,079.6	135.2	371.2	89	4,134.1	1,079.6	3,054.5	26

(D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.
[1]Shipments of primary products for these industries contain extensive duplication; therefore, specialization and coverage ratios were not calculated.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Primary copper (SIC 3331)	Primary lead (SIC 3332)	Primary zinc (SIC 3333)	Primary aluminum (SIC 3334)	Primary nonferrous metals, n.e.c. (SIC 3339)	Secondary nonferrous metals (SIC 3341)	Other industries
	Total	(X)	3,918.1	699.6	430.7	4,647.8	963.9	3,558.0	(X)
	Primary products	(X)	3,203.5	(D)	344.1	4,287.5	815.3	3,036.4	(X)
	Secondary products	(X)	511.7	(D)	71.4	205.0	88.5	103.5	(X)
	Miscellaneous receipts	(X)	202.9	24.3	15.2	155.3	60.1	418.1	(X)
3331-	Primary copper	3,254.6	3,203.5	-	0.1	-	(D)	(D)	(D)
33311	Copper smelter products	1,566.2	(D)	-	.1	-	-	(D)	(D)
33312	Refined primary copper	1,687.9	(D)	-	-	-	(D)	(D)	-
33310	Primary copper, n.s.k	.5	.5	-	-	-	-	-	-
3332-	Primary lead	530.6	-	(D)	(D)	-	-	(D)	-
33321	Lead smelter products	(D)	-	(D)	(D)	-	-	(D)	-
33323	Refined primary lead	(D)	-	(D)	-	-	-	-	-
3333-	Primary zinc	366.3	-	(D)	344.1	-	-	3.1	(D)
33331	Zinc residues and other zinc smelter products	39.9	-	(D)	17.7	-	-	3.1	(D)
33334	Refined primary zinc and zinc-base alloys	326.4	-	-	326.4	-	-	-	-
3334-	Primary aluminum	4,291.4	-	-	-	4,287.5	(D)	-	(D)
33347	Primary aluminum ingot, except billet	3,721.5	-	-	-	(D)	(D)	-	-
33348	Primary aluminum extrusion billet	570.0	-	-	-	(D)	-	-	(D)
3339-	Primary nonferrous metals, n.e.c	1,431.9	414.5	(D)	(D)	-	815.3	-	(D)
33395	Refined precious metals and precious alloys	464.8	410.3	(D)	-	-	(D)	-	-
33397	Other primary nonferrous metals	940.0	4.3	(D)	(D)	-	(D)	-	(D)
33390	Primary nonferrous metals, n.e.c., n.s.k	27.1	-	-	-	-	27.1	-	-
3341-	Secondary nonferrous metals	3,194.9	37.3	-	5.1	-	-	3,036.4	116.1
33412	Secondary copper and copper-base alloys	616.6	-	-	-	-	-	(D)	(D)
33413	Secondary lead and lead-base and tin-base alloys (see 33323)	680.3	-	-	-	-	-	(D)	(D)
33414	Secondary zinc and zinc-base alloys (see 33323)	144.7	-	-	(D)	-	-	141.6	(D)
33415	Secondary precious metals and their alloys	315.6	(D)	-	-	-	-	269.5	(D)
33416	Other secondary nonferrous metals and alloys	96.0	(D)	-	-	-	-	88.0	(D)
33417	Secondary aluminum ingot, except billet	978.3	-	-	(D)	-	-	971.3	(D)
33418	Secondary aluminum extrusion billet	112.4	-	-	-	-	-	(D)	(D)
33410	Secondary nonferrous metals, n.s.k	251.0	-	-	-	-	-	250.8	.3
	Other shipments by 4-digit product group:								
2816-	Inorganic pigments	(X)	-	-	(D)	-	(D)	(D)	(X)
2819-	Industrial inorganic chemicals, n.e.c	(X)	50.2	(D)	(D)	(D)	(D)	(D)	(X)
2879-	Agricultural chemicals, n.e.c	(X)	(D)	-	-	-	-	-	(X)
2899-	Chemical preparations, n.e.c	(X)	-	-	-	-	(D)	(D)	(X)
2999-	Petroleum and coal products, n.e.c	(X)	-	-	-	(D)	-	-	(X)
3312-	Blast furnace and steel mill products	(X)	-	-	-	(D)	-	(D)	(X)
3313-	Electrometallurgical products	(X)	-	-	(D)	(D)	(D)	-	(X)
3354-	Aluminum extruded products	(X)	-	-	-	-	-	(D)	(X)
3355-	Aluminum rolling and drawing, n.e.c	(X)	-	-	-	(D)	-	-	(X)
3356-	Nonferrous rolling and drawing, n.e.c	(X)	-	-	-	-	(D)	(D)	(X)
3369-	Nonferrous castings, n.e.c	(X)	-	-	-	-	(D)	-	(X)
3399-	Primary metal products, n.e.c	(X)	(D)	-	(D)	(D)	(D)	(D)	(X)
3624-	Carbon and graphite products	(X)	-	-	-	31.4	-	-	(X)
	Miscellaneous receipts:								
93000 00	Contract work	(X)	173.9	(D)	(D)	(D)	4.0	90.7	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	(D)	(D)	24.7	10.7	55.8	(X)
99989 00	Resales	(X)	(D)	-	(D)	(D)	45.4	271.7	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3339-	3313 Electrometallurgical products	(D)
	3399 Primary metal products, n.e.c	(D)
3341-	2819 Industrial inorganic chemicals, n.e.c	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3341-	3351 Copper rolling and drawing	(D)
	3356 Nonferrous rolling and drawing, n.e.c	(D)
	3361 Aluminum foundries	(D)
	3691 Storage batteries	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]: Total quantity[2]	Total value (million dollars)	Shipments to other companies: quantity	Shipments to other companies: value (million dollars)	Interplant transfers: quantity	Interplant transfers: value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1977									
3331- -- 33412 --	SMELTED AND REFINED COPPER	1,000 s. tons	(NA)	4,180.8	3,109.6	3,871.2	1,886.9	2,410.0	1,222.7	1,461.2	859.8	(D)
3331- --	Primary copper		(NA)	3,668.7	2,625.8	3,254.6	1,423.9	1,822.1	1,201.9	1,432.0	841.2	(D)
33412 --	Secondary copper		(NA)	512.1	483.8	616.6	463.0	587.4	20.8	29.2	18.6	9.7
33311 --	Copper smelter products		(NA)	1,667.4	1,290.7	1,566.2	296.2	396.9	994.5	1,169.3	244.0	206.7
33311 11	Blister or anode copper		7									
33311 51	Matte, speiss, flue dust, residues, etc		2	1,667.4	1,290.7	1,566.2	296.2	396.9	994.5	1,169.3	244.0	206.7
33312 -- 33412 --	Refined copper (pig, ingots, shot, etc.) and copper-base alloys		(NA)	2,513.4	1,818.9	2,304.5	1,590.7	2,012.6	228.2	291.9	615.8	(D)
33312 --	Made by primary copper refiners (industry 3331) and other primary refiners		(NA)	2,001.3	1,335.1	1,687.9	1,127.7	1,425.2	207.4	262.7	597.2	(D)
33312 17	Cathode		7	985.6	678.0	876.9	523.9	685.2	154.1	191.7	250.1	-
33312 20	Wire bar		4	683.0	418.7	502.5	376.1	446.6	42.6	55.9	264.3	-
33312 23	Ingot and ingot bar		5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33312 26	Other, including cakes, slabs, shot, etc		4	252.4	172.3	225.2	(D)	(D)	(D)	(D)	(D)	(D)
33412 --	Made by secondary copper refiners (industry 3341) and all other industries		(NA)	512.1	483.8	616.6	463.0	587.4	20.8	29.2	18.6	9.7
	Unalloyed:											
33412 17	Cathode		6	133.2	117.8	146.3	117.8	146.3	-	-	(D)	-
33412 20	Wire bar		2						(D)	(D)	-	-
33412 23	Ingot and ingot bar		8	*102.0	*100.4	119.0	(D)	(D)	-	-	(D)	-
33412 26	Other, including cakes, slabs, shot, etc		8	93.3	83.4	111.5	83.4	111.5	-	-	(D)	(D)
33412 31	Copper-base alloys		20	183.6	182.2	239.8	(D)	(D)	(D)	(D)	(D)	(D)
33310 00	Primary copper and copper-base alloys, n.s.k., typically for establishments with 20 employees or more (see note)	1,000 s. tons	(NA)	e.4	e.4	.5	e.4	.5	(X)	-	(X)	(X)
			1972									
3331- -- 33412 --	SMELTED AND REFINED COPPER	1,000 s. tons	(NA)	(X)	(X)	2,847.1	(X)	(D)	(X)	(D)	(X)	(X)
33311 --	Copper smelter products		(NA)	(X)	(X)	1,358.0	(X)	631.5	(X)	726.5	(X)	(X)
33311 11	Blister or anode copper		(NA)	1,705.6	(D)	(D)	(D)	(D)	(D)	(D)	380.1	74.8
33311 51	Matte, speiss, flue dust, residues, etc		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33311 00	Copper smelter products, n.s.k.		(NA)	-	-	-	-	-	-	-	-	-
33312 -- 33412 --	Refined copper (pig, ingots, shot, etc.) and copper-base alloys		(NA)	(NA)	(X)	1,488.6	(D)	(D)	(D)	(D)	(X)	(D)
33312 17 33312 20 33312 23 33312 26	Made by primary copper refiners (industry 3331) and other primary refiners		(NA)	2,255.5	966.5	977.4	(D)	(D)	(D)	(D)	1,281.0	35.4
33312 17	Cathode		(NA)									
33312 20	Wire bar		(NA)									
33312 23	Ingot and ingot bar		(NA)	2,255.5	966.5	977.4	(D)	(D)	(D)	(D)	1,281.0	35.4
33312 26	Other, including cakes, slabs, shot, etc	1,000 s. tons	(NA)									

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers: Total Quantity[2]	Total Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.									
3331- -- 33412 --	SMELTED AND REFINED COPPER--Con.											
33312 -- 33412 --	Refined copper (pig, ingots, shot, etc.) and copper-base alloys--Con.											
33412 17 33412 20 33412 23 33412 26	Made by secondary refiners (industry 3341) and all other industries	1,000 s. tons	(NA)	599.3	515.1	505.2	459.4	457.1	55.7	48.1	(D)	(D)
	Unalloyed:											
33412 17	Cathode		(NA)									
33412 20	Wire bar		(NA)									
33412 23	Ingot and ingot bar		(NA)	228.0	141.5	128.3	459.4	457.1	55.7	48.1	(D)	(D)
33412 26	Other, including cakes, slabs, shot, etc		(NA)									
33412 31	Copper-base alloys		(NA)	371.3	373.6	376.9						.4
33412 00	Refined copper (pig, ingots, shot, etc.) and copper-base alloys, n.s.k.	1,000 s. tons	(NA)	(X)	(X)	5.7	(X)	(NA)	(X)	(NA)	(X)	(X)
33310 00	Primary copper and copper-base alloys, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	(X)	.3	(X)	(NA)	(X)	(NA)	(X)	(X)
			1977									
3332- -- 33413 --	SMELTED AND REFINED LEAD	1,000 s. tons	(NA)	2,196.8	1,563.3	1,203.4	(D)	(D)	(D)	(D)	(D)	(D)
3332- --	Primary Lead		(NA)	1,213.2	681.7	530.6	(D)	(D)	(D)	(D)	(D)	406.3
33413 --	Secondary Lead		(NA)	983.6	881.6	672.8	783.5	604.3	98.1	68.5	76.7	(D)
33321 --	Lead smelter products		(NA)	722.9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33321 11	Base bullion		3	645.5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33321 51	Matte, speiss, etc		3	77.4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323 -- 33413 --	Refined lead (pig, ingots, shot, etc.) and lead-base alloys		(NA)	1,475.4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323 --	Made by primary lead refiners (industry 3332) and other primary refiners		(NA)	490.3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323 31	Lead, unalloyed		3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323 61	Lead and tin-base alloys		1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33413 --	Made by secondary refiners (industry 3341) and all other industries		(NA)	994.1	892.1	680.3	794.0	611.8	98.1	68.5	76.7	(D)
33413 11	Unalloyed (pig, ingots, shot, etc.)		28	368.8	340.6	189.1	(D)	(D)	(D)	(D)	16.7	(D)
	Lead and tin-base alloys		(NA)	614.8	541.0	483.7	(D)	(D)	(D)	(D)	66.0	(D)
33413 21	Antimonial lead		23	453.9	387.7	247.2	339.3	216.6	48.4	30.6	62.5	(D)
33413 33	Babbitt metal		16	4.7	4.6	14.7	4.6	14.7	-	-		
33413 51	Solder		22	76.4	72.5	173.1	71.8	171.3	.7	1.8		
33413 71	Type metal		5	9.2	9.2	7.8	9.2	7.8	-	-	3.5	(D)
33413 98	Other lead and tin-base alloys		12	70.6	67.0	40.9	67.0	40.9	-	-		
33413 00	Secondary lead, n.s.k.[3]	1,000 s. tons	(NA)	e10.5	e10.5	7.5	e10.5	7.5	-	-	-	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]: Total Quantity[2]	Total Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972									
3332- -- 33413 --	SMELTED AND REFINED LEAD--Con.											
3332- --	PRIMARY LEAD	1,000 s. tons	(X)	(NA)	(NA)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
33321 --	Lead smelter products		(X)	(X)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33321 11	Base bullion		(X)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33321 51	Matte, speiss, etc		(X)	55.8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323 -- 33413 --	Refined lead (pig, ingots, shot, etc.) and lead-base alloys		(X)	(NA)	(X)	461.2	(D)	(D)	(D)	(D)	(D)	(D)
33323 --	Made by primary lead refiners (industry 3332) and other primary refiners		(X)	832.4	671.6	203.5	(D)	(D)	(D)	(D)	(D)	(D)
33323 31	Lead, unalloyed		(X)									
33323 61	Lead and tin-base alloys		(X)									
33413 --	Made by secondary refiners (industry 3341) and all other industries		(X)	(X)	(X)	257.7	(D)	(D)	(D)	(D)	(D)	(D)
	Unalloyed (pig, ingots, shot, etc.)		(X)	173.1	167.0	46.3	149.6	41.1	17.4	4.9	(D)	(D)
	Lead and tin-base alloys		(X)	506.6	379.0	189.1	(D)	(D)	(D)	(D)	59.8	9.9
33413 21	Antimonial lead		(X)	327.7	234.6	79.5						
33413 33	Babbitt metal		(X)	7.3	7.8	9.3						
33413 51	Solder		(X)	91.7	87.5	79.8	(D)	(D)	(D)	(D)	59.8	9.9
33413 71	Type metal		(X)	21.1	17.7	7.9						
33413 98	Other lead and tin-base alloys		(X)	58.8	31.4	12.6						
33413 00	Refined lead (pig, ingots, shot, etc.) and lead-base alloys, n.s.k.	1,000 s. tons	(X)	(X)	(X)	22.3	(X)	(NA)	(X)	(NA)	(X)	(X)
			1977									
3333- -- 33414 --	SMELTED AND REFINED ZINC	1,000 s. tons	(NA)	814.0	789.9	511.1	(D)	(D)	(D)	(D)	48.3	(D)
3333- --	Primary zinc		(NA)	616.5	602.9	366.3	(D)	(D)	(D)	(D)	30.7	(D)
33414 --	Secondary zinc		(NA)	197.5	187.0	144.8	186.2	144.2	.8	.6	17.6	(D)
33331 --	Zinc residues and other zinc smelter products:											
33331 11	Zinc residues and other zinc smelter products		11	162.4	153.4	39.9	(D)	(D)	(D)	(D)	(D)	-
33334 -- 33414 --	Refined zinc (pig, ingot, shot, etc.) and zinc-base alloys		(NA)	651.6	636.5	471.3	609.0	454.0	27.5	17.3	(D)	(D)
33334 --	Made by primary zinc refiners (industry 3333) and other primary refiners		(NA)	454.1	449.5	326.4	422.8	309.8	(D)	(D)	(D)	(D)
	Slab, excluding remelt zinc:											
33334 31	Special high grade		(X)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
33334 35	Prime western		(X)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
33334 38	Other grades		6	[5]241.1	[5]234.0	[5]159.7	[5]209.7	[5]144.7	(D)	(D)	-	-
	Slab, remelt zinc:											
33334 41	Special high grade		7	[4]131.7	[4]149.4	[4]120.2	[4]147.0	[4]118.5	(D)	(D)	(D)	(D)
33334 45	Prime western		2						-	-	(D)	-
33334 48	Other grades		1	81.3	66.1	[4]46.6	66.1	46.6	-	-	-	-
33334 55	Dust	1,000 s. tons	2						-	-	-	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments, including interplant transfers[1]: Total Quantity[2]	Total Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1977--Con.									
3333- -- 33414 --	SMELTED AND REFINED ZINC--Con.											
33414 --	Made by secondary refiners (industry 3341) and all other industries	1,000 s. tons	(NA)	197.5	187.0	144.7	186.2	144.2	.8	.6	17.6	(D)
	Slab, excluding remelt zinc (unalloyed):											
33414 10	Special high grade		4						-	-	(D)	(D)
33414 14	Prime western		3	17.0	16.4	12.9	16.4	12.9	-	-		
33414 17	Other grades		1						-	-	-	(D)
	Slab, remelt zinc (unalloyed):											
33414 20	Special high grade		3	7.2	7.2	5.0	7.2	5.0	-	-	-	-
33414 23	Prime western		-	3.4	3.3	2.0					-	-
33414 26	Other grades		2								(D)	
33414 05	Dust		5	35.0	**33.4	30.0	162.6	126.3	.8	.6	(D)	-
33414 11	Zinc-base alloys	1,000 s. tons	17	134.9	126.7	94.9					(D)	-
			1972									
3333- -- 33414 --	SMELTED AND REFINED ZINC	1,000 s. tons	(X)	(NA)	1,521.3	447.3	1,326.5	427.4	194.8	19.9	(NA)	(NA)
3333- --	Primary zinc		(X)	1,432.7	1,261.9	337.7	1,067.1	317.8	194.8	19.9	(D)	(D)
33414 --	Secondary zinc		(X)	265.1	259.4	109.6	259.4	109.6	-	-	(D)	(D)
33331 --	Zinc residues and other zinc smelter products:											
33331 11	Zinc residues and other zinc smelter products		(X)	502.6	411.7	37.7	(D)	(D)	(D)	(D)	(D)	(D)
33334 -- 33414 --	Refined zinc (pig, ingot, shot, etc.) and zinc-base alloys		(X)	1,214.0	1,108.6	409.6	(D)	(D)	(D)	(D)	(D)	47.0
33334 --	Made by primary zinc refiners (industry 3333) and other primary refiners		(X)	930.1	850.2	300.0	(D)	(D)	(D)	(D)	(D)	(D)
	Slab, excluding remelt zinc:											
33334 31	Special high grade		(X)									
33334 35	Prime western		(X)	855.3	760.5	267.1	(D)	(D)	(D)	(D)	(D)	(D)
33334 38	Other grades		(X)									
	Slab, remelt zinc:											
33334 41	Special high grade		(X)									
33334 45	Prime western		(X)	60.8	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33334 48	Other grades		(X)									
33334 55	Dust	1,000 s. tons	(X)	14.0	(D)	(D)	(D)	(D)	-	-	(D)	(D)
33414 --	Made by secondary refiners (industry 3341) and all other industries	1,000 s. tons	(X)	265.1	259.4	109.6	259.4	109.6	-	-	(D)	(D)
	Slab, excluding remelt zinc (unalloyed):											
33414 10	Special high grade		(X)									
33414 14	Prime western		(X)	46.8	46.5	20.5	46.5	20.5	-	-	-	-
33414 17	Other grades		(X)									
	Slab, remelt zinc (unalloyed):											
33414 20	Special high grade		(X)									
33414 23	Prime western		(X)	(D)	(D)	(D)	(D)	(D)	-	-	(D)	(D)
33414 26	Other grades		(X)									
33414 05	Dust		(X)	(D)	(D)	(D)	(D)	(D)	-	-	(D)	(D)
33414 11	Zinc-base alloys	1,000 s. tons	(X)	191.4	188.8	78.3	188.8	78.3	-	-	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]: Total Quantity[2]	Total Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1977									
3334 -- 33417 -- 33418 -- 33553 -- 33554 --	ALUMINUM INGOT AND BILLET[6]	1,000 s. tons	(NA)	7,782.0	6,204.9	6,092.4	2,531.4	2,493.1	3,673.5	3,599.3	373.1	1,341.0
3334 --	Primary aluminum		(NA)	4,499.6	4,357.9	4,291.4	1,258.6	1,264.7	3,099.3	3,022.0	(D)	18.9
33417 -- 33418 --	Secondary aluminum		(NA)	1,372.5	1,188.9	1,090.7	(D)	(D)	(D)	(D)	(D)	(D)
33553 -- 33554 --	Aluminum ingot and billet made in aluminum rolling mills (industries 3353, 3354, and 3355)[6]		(NA)	1,909.9	658.1	710.3	(D)	(D)	(D)	(D)	(D)	(D)
33347 -- 33417 -- 33553 --	Aluminum ingot[6]		(NA)	6,514.8	5,364.8	5,229.2	2,139.0	2,070.2	3,225.8	3,153.6	193.5	1,119.9
33347 11	Made in primary aluminum industry (3354) and other primary nonferrous metal industries[6]		12	3,845.4	3,791.3	3,721.5	986.6	984.9	2,804.7	2,736.6	(D)	18.9
33553 11	Made in aluminum rolling and drawing mills, n.e.c. (industries 3353, 3354, and 3355)[6]		7	1,489.6	500.0	529.4	1,152.4	1,090.7	421.1	417.0	(D)	1,101.0
33417 11	Made in secondary nonferrous metals industry (3341) and all other industries[6]		66	1,179.8	1,073.5	978.3						
33348 -- 33554 -- 33418 --	Aluminum extrusion billet[6]		(NA)	1,267.2	840.1	863.3	398.8	415.4	447.7	445.7	179.6	221.1
33348 11	Made in primary aluminum industry (3334) and other primary nonferrous metal industries[6]		11	654.2	566.6	570.0	272.0	284.6	294.6	285.4	79.2	-
33554 11	Made in aluminum rolling and drawing mills, n.e.c. (industries 3353, 3354, and 3355)[6]		10	420.3	158.1	180.9	60.5	65.1	104.0	113.6	9.1	221.1
33418 11	Made in secondary nonferrous metals industry (3341) and all other industries[6]	1,000 s. tons	10	192.7	115.4	112.4	66.3	65.7	49.1	46.7	91.3	-
			1972									
3334 -- 33417 -- 33418 -- 33553 -- 33554 --	ALUMINUM INGOT AND BILLET[6]	1,000 s. tons	(NA)	7,030.4	4,879.4	2,290.6	2,426.8	1,158.7	2,452.6	1,131.9	(D)	(D)
3334 --	Primary aluminum		(NA)	4,028.2	3,782.4	1,754.5	1,616.8	742.4	2,165.6	1,012.1	(D)	(D)
33417 -- 33418 --	Secondary aluminum		(NA)	839.4	742.1	369.0	(D)	(D)	(D)	(D)	(D)	(D)
33553 -- 33554 --	Aluminum ingot and billet made in aluminum rolling mills (industries 3353, 3354, and 3355)[6]		(NA)	2,162.8	354.9	167.1	(D)	(D)	(D)	(D)	(D)	(D)
33347 -- 33417 -- 33553 --	Aluminum ingot[6]		(NA)	5,912.2	4,164.6	1,971.2	1,983.2	951.6	2,181.4	1,019.6	(D)	(D)
33347 11	Made in primary aluminum industry (3334) and other primary nonferrous metal industries[6]		(NA)	3,458.8	3,240.0	1,513.8	1,279.9	586.7	1,960.1	927.1	(D)	(D)
33553 11	Made in aluminum rolling and drawing mills, n.e.c. (industries 3353, 3354, and 3355)[6]		(NA)	1,739.6	253.3	120.5	703.3	364.9	221.3	92.5	-	(D)
33417 11	Made in secondary nonferrous metals industry (3341) and all other industries[6]	1,000 s. tons	(NA)	713.8	671.3	336.9					42.2	1.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1972									
	ALUMINUM INGOT AND BILLET--Con.											
3334- -- 33417 -- 33418 -- 33553 -- 33554 --	ALUMINUM INGOT AND BILLET[6]--Con.											
33348 -- 33554 -- 33418 --	Aluminum extrusion billet[6]	1,000 s. tons	(NA)	1,118.2	714.8	319.4	443.6	207.1	271.2	112.3	(D)	313.5
33348 11	Made in primary aluminum industry (3344) and other primary nonferrous metal industries[6]		(NA)	569.4	542.4	240.7	336.9	155.7	205.5	85.0	(D)	-
33554 11	Made in aluminum rolling and drawing mills, n.e.c. (industries 3353, 3354, and 3355)[6]		(NA)	423.2	101.6	46.6	106.7	51.4	65.7	27.3	53.0	313.5
33418 11	Made in secondary nonferrous metals industry (3341) and all other industries[6]	1,000 s. tons	(NA)	125.6	70.8	32.1						
			1977									
	PRIMARY NONFERROUS METALS, N.E.C.											
3339- -- 33415 -- 33416 --	Smelted and refined nonferrous metals, n.e.c.	.....	(NA)	(NA)	(NA)	1,843.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3339- --	Primary nonferrous metals, n.e.c.	.....	(NA)	(NA)	(NA)	1,431.9	(D)	(D)	(D)	(D)	(NA)	(NA)
33415 --	Secondary precious metals and their alloys	.....	(NA)	(NA)	(NA)	315.6	(NA)	315.6	-	-	(D)	-
33416 --	Other secondary nonferrous metals, n.e.c.	.....	(NA)	(NA)	(NA)	96.0	(D)	(D)	(D)	(D)	(NA)	(NA)
33395 -- 33415 --	Precious metals and their alloys	1,000 troy oz.	(NA)	(NA)	(NA)	780.4	(D)	(D)	(D)	(D)	(D)	-
33395 --	Primary precious metals and their alloys		(NA)	(NA)	(NA)	464.8	(NA)	(D)	(NA)	(D)	(D)	-
33415 --	Secondary precious metals and their alloys		(NA)	(NA)	(NA)	315.6	(NA)	315.6	-	-	(D)	-
33395 25 33415 11 33415 81	Gold and gold-base alloys		(NA)	3,323.1	2,115.2	352.9	(D)	(D)	(D)	(D)	(D)	-
33395 25	Made in industry 3339 and other primary nonferrous industries		7	1,066.0	1,085.1	193.0	(D)	(D)	(D)	(D)	(D)	-
33415 11 33415 81	Made in industry 3341 and other secondary industries[7]		13	2,257.2	1,030.2	160.0	1,030.2	160.0	-	-	636.3	
33395 35 33415 31 33415 71	Silver and silver-base alloys		(NA)	111,623.0	80,221.5	388.3	(D)	(D)	(D)	(D)	(D)	-
33395 35	Made in industry 3339 and other primary nonferrous industries		5	111,623.0	80,221.5	388.3	(D)	(D)	(D)	(D)	(D)	-
33415 31 33415 71	Made in industry 3341 and other secondary industries:											
33415 31	Unalloyed		17									
33415 71	Alloyed		-	-	-	-	-	-	-	-	-	
33395 45 33415 51 33415 89	Platinum, including platinum-group metals and alloys		(NA)	5,534.4	4,845.9	26.3	4,845.9	26.3	-	-	(D)	-
33395 45	Made in industry 3339 and other primary nonferrous industries		2	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33415 51 33415 89	Made in industry 3341 and other secondary industries:											
33415 51	Unalloyed		9	851.5	262.4	21.6	262.4	21.6	-	-	(D)	-
33415 89	Alloyed	1,000 troy oz.	2	(D)	(D)	(D)	(D)	(D)	-	-	-	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers: Total[1] Quantity[2]	Total[1] Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1977--Con.									
	PRIMARY NONFERROUS METALS, N.E.C.--Con.											
33395 -- 33415 --	Precious metals and their alloys--Con.											
33415 00	Precious metals and their alloys, n.s.k.	.....	(NA)	(NA)	(NA)	12.9	(NA)	12.9	-	-	-	-
33397 -- 33416 --	Other nonferrous metals, n.e.c.	1,000 s. tons.	(NA)	(NA)	(NA)	1,036.0	(NA)	768.6	(NA)	267.4	(NA)	(NA)
33397 --	Other primary nonferrous metals, n.e.c.	↕	(NA)	(NA)	(NA)	940.0	(D)	(D)	(D)	(D)	(NA)	(NA)
33416 --	Other secondary nonferrous metals, n.e.c.	1,000 s. tons.	(NA)	(NA)	(NA)	96.0	(D)	(D)	(D)	(D)	(NA)	(NA)
33397 23 33416 51	Cadmium, unalloyed	1,000 s. tons.	(NA)	2.3	2.0	11.8	2.0	11.8	-	-	-	-
33397 23	Made in industry 3339 and other primary nonferrous industries	↑	6	2.3	2.0	11.5	2.0	11.5	-	-	-	-
33416 51	Made in industry 3341 and other secondary industries		1	(Z)	(Z)	.3	(Z)	.3	-	-	-	-
33397 33 33416 61 33416 21	Magnesium and magnesium-base alloys		(NA)	130.0	124.5	241.3	(D)	(D)	(D)	(D)	-	(D)
33397 33	Made in industry 3339 and other nonferrous industries		3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33416 61 33416 21	Made in industry 3341 and other secondary industries:											
33416 61	Unalloyed		-	-	-	-	-	-	-	-	-	-
33416 21	Alloyed		2	(D)	(D)	(D)	(D)	(D)	-	-	-	(Z)
33397 43 33416 69 33416 31	Nickel and nickel-base alloys		(NA)	45.7	41.2	127.7	(D)	(D)	(D)	(D)	(D)	-
33397 43	Made in industry 3339 and other primary nonferrous industries		1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33416 69 33416 31	Made in industry 3341 and other secondary industries:											
33416 69	Unalloyed		1	(Z)	(Z)	(D)	(Z)	(D)	-	-	-	-
33416 31	Alloyed		7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33397 63 33416 71	Tin, unalloyed		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33397 63	Made in industry 3339 and other primary nonferrous industries		4	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33416 71	Made in industry 3341 and other secondary industries		9	1.3	1.3	13.4	(D)	(D)	(D)	(D)	-	-
33397 81	Chromium, unalloyed		2	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33397 85	Silicon, unalloyed (under 99.7 percent silicon)		5	(S)	(S)	91.5	(S)	(D)	(S)	(D)	-	(D)
33416 89	Other unalloyed nonferrous metals, including metal-bearing furnace residues and other metal products which have to be further refined before sale to customers		(NA)	69.1	41.4	157.3	(D)	152.2	15.1	5.1	.1	32.6
33397 89	Made in industry 3339 and other primary nonferrous industries		5	16.8	20.1	144.1	(D)	(D)	(D)	(D)	2.6	-
33416 89	Made in industry 3341 and other secondary industries	1,000 s. tons.	6	52.3	21.3	13.2	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers: Total[1] Quantity[2]	Total[1] Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1977--Con.									
	PRIMARY NONFERROUS METALS, N.E.C.--Con.											
33397 -- 33416 --	Other nonferrous metals, n.e.c.--Con.											
33416 98 33397 98 33416 43	Other nonferrous metals and their alloys	1,000 s. tons	(NA)	232.9	162.7	287.2	(S)	257.2	(S)	30.0	(D)	(D)
33397 98	Made in industry 3339 and other primary nonferrous industries		15	(S)	(S)	263.1	(S)	249.3	(S)	26.8	-	(D)
33416 43	Made in industry 3341 and other secondary industries	1,000 s. tons.	6	(S)	(S)	13.0					(D)	-
33416 98	Other unalloyed non-ferrous metals, including antimony, cobalt, molybdenum, titanium sponge, etc.[8]		6	2.1	2.1	11.1	(D)	(D)	(D)	(D)	-	-
33397 00 33416 00	Other nonferrous metals and their alloys, n.s.k.	.....	(NA)	(NA)	(NA)	3.7	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33397 --	Other primary nonferrous metals, n.s.k.	.....	(NA)	(NA)	(NA)	1.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33416 --	Other secondary nonferrous metals, n.s.k.	.....	(NA)	(NA)	(NA)	2.2	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33390 00	Primary nonferrous metals, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(NA)	(NA)	27.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
			1972									
	PRIMARY NONFERROUS METALS, N.E.C.											
3339- -- 33415 -- 33416 --	Primary nonferrous metals, n.e.c.	.....	(NA)	(NA)	(NA)	1,125.6	(NA)	(D)	(NA)	(D)	(NA)	(NA)
33395 -- 33415 --	Precious metals and their alloys	1,000 troy oz.	(NA)	(NA)	(NA)	527.4	(NA)	(D)	(NA)	(D)	(NA)	(NA)
33395 25 33415 11 33415 81	Gold and gold-base alloys		(NA)	(D)	4,058.3	216.6	(D)	(D)	(D)	(D)	(D)	(D)
33395 25	Made in industry 3339 and other primary nonferrous industries		(NA)	3,827.6	2,747.3	169.6	(D)	(D)	(D)	(D)	(D)	(D)
33415 11 33415 81	Made in industry 3341 and other secondary industries:											
33415 11	Unalloyed		(NA)	623.4	615.9	24.6	615.9	24.6	-	-	(D)	(D)
33415 81	Alloyed		(NA)	693.2	695.1	22.4	695.1	22.4	-	-	-	(D)
33395 35 33415 31 33415 71	Silver and silver-base alloys		(NA)	(D)	124,982.4	199.8	124,144.3	198.3	838.1	1.5	304.5	45,400.8
33395 35	Made in industry 3339 and other primary nonferrous industries		(NA)	126,793.8	93,649.3	155.4	(D)	(D)	(D)	(D)	(D)	(D)
33415 31 33415 71	Made in industry 3341 and other secondary industries:											
33415 31	Unalloyed		(NA)	9,810.5	9,421.8	16.7	(D)	(D)	(D)	(D)	(D)	(D)
33415 71	Alloyed		(NA)	(D)	21,911.3	27.7	(D)	(D)	-	-	-	(D)
33395 45 33415 51 33415 89	Platinum, including platinum-group metals and alloys		(NA)	(D)	848.8	85.9	(D)	(D)	(D)	(D)	(D)	(D)
33395 45	Made in industry 3339 and other primary nonferrous industries		(NA)	(D)	42.3	4.4	(D)	(D)	(D)	(D)	(D)	(D)
33415 51 33415 89	Made in industry 3341 and other secondary industries:											
33415 51	Unalloyed		(NA)	464.8	455.4	35.5	455.4	35.5	-	-	(D)	(D)
33415 89	Alloyed		(NA)	348.1	351.1	46.0	351.1	46.0	-	-	-	-
33395 00 33415 00	Precious metals and their alloys, n.s.k.	1,000 troy oz.	(NA)	(X)	(X)	25.1	(X)	(NA)	(X)	(NA)	(X)	(X)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers: Total[1] Quantity[2]	Total[1] Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.									
	PRIMARY NONFERROUS METALS, N.E.C.--Con.											
33397 -- 33416 --	Other nonferrous metals	1,000 s. tons.	(NA)	(X)	(X)	577.3	(X)	(NA)	(X)	(NA)	(X)	(X)
33397 23 33416 51	Cadmium, unalloyed		(NA)	5.6	4.9	23.4	(D)	(D)	(D)	(D)	(D)	(D)
33397 23	Made in industry 3339 and other primary nonferrous industries		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33416 51	Made in industry 3341 and other secondary industries		(NA)	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33397 33 33416 61 33416 21	Magnesium and magnesium-base alloys		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33397 33	Made in industry 3339 and other primary nonferrous industries		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33416 61 33416 21	Made in industry 3341 and other secondary industries:											
33416 61	Unalloyed		(NA)	46.8	(D)	(D)	(D)	(D)	-	-	-	-
33416 21	Alloyed		(NA)									
33397 43 33416 69 33416 31	Nickel and nickel-base alloys		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33397 43	Made in industry 3339 and other primary nonferrous industries		(NA)	(S)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33416 69 33416 31	Made in industry 3341 and other secondary industries		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33416 69	Unalloyed		(NA)	-	-	-	-	-	-	-	-	-
33416 31	Alloyed		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33397 63 33416 71	Tin, unalloyed		(NA)	(S)	(S)	(S)	(D)	(D)	(D)	(D)	(D)	-
33397 63	Made in industry 3339 and other primary nonferrous industries		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33416 71	Made in industry 3341 and other secondary industries		(NA)	(D)	(D)	(D)	.5	2.0	(D)	(D)	(D)	-
33397 73 33416 81	Titanium sponge[8]		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33397 81 33397 85	Chromium, unalloyed Silicon, unalloyed (over 99.7 percent silicon)		(NA) (NA)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)
33397 89 33416 89	Other unalloyed nonferrous metals, including metal-bearing furnace residues and other metal products which have to be further refined before sale to customers		(NA)	1,559.0	420.1	74.7	393.8	70.5	26.3	4.2	(D)	(D)
33397 89	Made in industry 3339 and other primary nonferrous industries		(NA)	1,553.4	414.5	65.6	388.2	61.4	26.3	4.2	(D)	(D)
33416 89	Made in industry 3341 and other secondary industries		(NA)	5.6	5.6	9.1	5.6	9.1	-	-	-	-
33397 98 33416 43	Other nonferrous metals and their alloys		(NA)	45.2	42.7	139.5	41.5	105.4	1.2	30.1	(D)	(D)
33397 98	Made in industry 3339 and other primary nonferrous industries		(NA)	9 37.6	9 36.1	9 117.1	9 34.9	9 83.0	9 1.2	9 30.1	9 (D)	9 (D)
33416 43	Made in industry 3341 and other secondary industries	1,000 s. tons.	(NA)	7.6	6.6	22.4	6.6	22.4	-	-	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers: Total[1] Quantity[2]	Total[1] Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.									
	PRIMARY NONFERROUS METALS, N.E.C.--Con.											
33397 -- 33416 --	Other nonferrous metals--Con.											
33397 00 33416 00	Other nonferrous metals, n.s.k..	.....	(NA)	(X)	(X)	35.6	(X)	(X)	(X)	(X)	(X)	(X)
33390 00	Primary nonferrous metals, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note).....	.....	(NA)	(X)	(X)	18.7	(X)	(X)	(X)	(X)	(X)	(X)
33390 02	Primary nonferrous metals, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note).....	.....	(NA)	(X)	(X)	2.2	(X)	(X)	(X)	(X)	(X)	(X)
			1977									
	SECONDARY NONFERROUS METALS											
33312 -- 33323 -- 33334 -- 3334- -- 3339- -- 3341- -- 33553 -- 33554 --	Refined nonferrous metals.	.....	(NA)	(NA)	(NA)	[10]11,638.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33312 --	Primary refined copper.....	1,000 s. tons.	(NA)	2,001.3	1,335.1	1,687.9	1,127.7	1,425.2	207.4	262.7	597.2	(D)
33323 --	Primary refined lead.....		(NA)	490.3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33334 --	Primary refined zinc.....		(NA)	454.1	449.5	326.4	(D)	(D)	(D)	(D)	(D)	(D)
3334- --	Primary aluminum.....		(NA)	4,499.6	4,357.9	4,286.7	1,258.6	1,264.7	3,099.3	3,022.0	(D)	18.9
3339- --	Primary nonferrous metals, n.e.c.....		(NA)	(NA)	(NA)	1,431.9	(D)	(D)	(D)	(D)	(NA)	(NA)
3341- --	Secondary nonferrous metals.		(NA)	(NA)	(NA)	3,194.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33553 -- 33554 --	Aluminum ingot and billet made in aluminum rolling and drawing mills (industries 3353, 3354, and 3355)		(NA)	1,909.9	658.1	710.3	(D)	(D)	(D)	(D)	(D)	(D)
33312 -- 33412 --	Refined copper (pig, ingots, shot, etc.) and copper-base alloys.....		(NA)	2,513.4	1,818.9	2,304.5	1,590.7	2,012.6	228.2	291.9	615.8	(D)
33312 --	Primary refined copper.....		(NA)	2,001.3	1,335.1	1,687.9	1,127.7	1,425.2	207.4	262.7	597.2	(D)
33412 --	Secondary refined copper....		(NA)	512.1	483.8	616.6	463.0	587.4	20.8	29.2	18.6	9.7
33312 --	Made by primary copper refiners (industry 3331) and other primary refiners.....		(NA)	2,001.3	1,335.1	1,687.9	1,127.7	1,425.2	207.4	262.7	597.2	(D)
33312 17	Cathode.....		7	985.6	678.0	876.9	523.9	685.2	154.1	191.7	250.1	-
33312 20	Wire bar.....		4	683.0	418.7	502.5	376.1	446.6	42.6	55.9	264.3	-
33312 23	Ingot and ingot bar.....		5	80.3	66.1	83.3	66.1	83.3	-	-	(D)	-
33312 26	Other, including cakes, slabs, shot, etc.....		4	252.4	172.3	225.2	(D)	(D)	(D)	(D)	(D)	(D)
33412 --	Made by secondary copper refiners (industry 3341) and all other industries.....		(NA)	512.1	483.8	616.6	463.0	587.4	20.8	29.2	18.6	9.7
	Unalloyed:											
33412 17	Cathode.....		5	133.2	117.8	146.3	117.8	146.3	-	-	(D)	-
33412 20	Wire bar.....		2	102.0	100.4	119.0	(D)	(D)	(D)	(D)	-	(D)
33412 23	Ingot and ingot bar.....		6						-	-	(D)	-
33412 26	Other, including cakes, slabs, shot, etc.....		8	93.3	83.4	111.5	83.4	111.5	-	-	(Z)	(D)
33412 31	Copper-base alloys.....	1,000 s. tons.	20	183.6	182.2	239.8	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production[2]	Product shipments including interplant transfers[1]: Total Quantity	Total Value (million dollars)	Shipments to other companies Quantity	Shipments to other companies Value (million dollars)	Interplant transfers Quantity	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1977--Con.									
	SECONDARY NONFERROUS METALS--Con.											
33323 -- 33414 --	Refined lead (pig, ingots, shot, etc.) and lead-base alloys	1,000 s. tons.	(NA)	1,475.4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323 --	Primary refined lead		(NA)	490.3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33413 --	Secondary refined lead		(NA)	983.6	881.6	680.3	783.5	611.8	98.1	68.5	76.7	(D)
33323 --	Made by primary lead refiners (industry 3332) and other primary refiners		(NA)	490.3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323 31	Lead, unalloyed		4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323 61	Lead and tin-base alloys	1,000 s. tons.	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33413 --	Made by secondary refiners (industry 3341) and all other industries	1,000 s. tons.	(NA)	983.6	881.6	680.3	783.5	611.8	98.1	68.5	76.7	(D)
33413 11	Unalloyed (pig, ingots, shot, etc.)		25	368.8	340.6	189.1	(D)	(D)	(D)	(D)	16.7	(D)
	Lead and tin-base alloys:											
33413 21	Antimonial lead		17	453.9	387.7	247.2	(D)	(D)	(D)	(D)	62.5	(D)
33413 33	Babbitt metal		13	4.7	4.6	14.7	4.6	14.7	-	-		
33413 51	Solder		21	76.4	72.5	173.1	71.8	171.3	.7	1.8		
33413 71	Type metal		5	9.2	9.2	7.8	9.2	7.8	-	-	3.5	(D)
33413 98	Other lead and tin-base alloys		11	[e]70.6	[e]67.0	40.9	[e]67.0	40.9	-	-		
33413 00	Secondary lead, n.s.k.		(NA)	[e]10.5	[e]10.5	[11]7.5	[e]10.5	[11]7.5	-	-	-	-
33334 -- 33414 --	Refined zinc (pig, ingots, shot, etc.) and zinc-base alloys		(NA)	651.6	636.5	471.3	(D)	(D)	(D)	(D)	(D)	(D)
33334 --	Primary refined zinc		(NA)	454.1	449.5	326.5	(D)	(D)	(D)	(D)	(D)	(D)
33414 --	Secondary refined zinc		(NA)	197.5	187.0	144.7	224.2	167.1	.8	.6	17.6	(D)
33334 --	Made by primary zinc refiners (industry 3333) and other primary refiners		(NA)	454.1	449.5	326.5	(D)	(D)	(D)	(D)	(D)	(D)
	Slab, excluding remelt zinc:											
33334 31	Special high grade		4	85.2	114.3	98.2	(D)	(D)	(D)	(D)	(D)	(D)
33334 35	Prime western		3	143.5	136.2	91.6	111.9	76.6	24.3	15.0	-	-
33334 38	Other grades		4	97.6	97.8	68.1	97.8	68.1	-	-	-	-
	Slab, remelt zinc:											
33334 41	Special high grade		4	46.5	35.1	22.0	35.1	22.0	-	-	(D)	-
33334 45	Prime western		2						-	-	(D)	-
33334 48	Other grades		1	81.3	66.1	46.6	66.1	46.6	-	-	-	-
33334 55	Dust		2						-	-	-	(D)
33414 --	Made by secondary refiners (industry 3341) and all other industries		(NA)	197.5	187.0	144.7	224.2	167.1	.8	.6	17.6	(D)
	Slab, excluding remelt zinc (unalloyed):											
33414 10	Special high grade		4						-	-	(D)	(D)
33414 14	Prime western		3	17.0	16.4	12.9	16.4	12.9	-	-	-	(D)
33414 17	Other grades		1						-	-	(D)	-
	Slab, remelt zinc (unalloyed):											
33414 20	Special high grade		3	7.2	7.2	5.0	7.2	5.0	-	-	-	-
33414 23	Prime western		-								-	-
33414 26	Other grades		2	3.4	3.3	2.0					-	-
33414 05	Dust		5	35.0	**33.4	30.0	200.6	149.2	.8	.6	(D)	-
33414 11	Zinc-base alloys	1,000 s. tons.	18	134.9	126.7	94.9					(D)	-

See footnotes at end of table.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production[2]	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)		
			1977--Con.									
	SECONDARY NONFERROUS METALS--Con.											
3334- -- 33417 -- 33418 -- 33553 -- 33554 --	Aluminum ingot and billet[6]	1,000 s. tons.	(NA)	7,782.0	6,204.9	6,087.7	2,531.3	2,202.9	3,673.6	3,599.4	440.4	1,130.6
3334- --	Primary aluminum		(NA)	4,499.6	4,357.9	4,286.7	1,258.6	1,264.7	3,099.3	3,022.0	(D)	18.9
33417 -- 33418 --	Secondary aluminum		(NA)	1,372.5	1,188.9	1,090.7	(D)	(D)	(D)	(D)	(D)	(D)
33553 -- 33554 --	Aluminum ingot and billet made in aluminum rolling and drawing mills (industries 3353, 3354, and 3355)[6]		(NA)	1,909.9	658.1	710.3	(D)	(D)	(D)	(D)	(D)	(D)
33417 -- 33347 -- 33553 --	Aluminum ingot[6]		(NA)	6,480.6	5,197.1	5,088.1	2,107.6	2,038.8	3,089.5	3,049.3	319.5	1,116.2
33347 11	Made in primary aluminum industry (industry 3334) and other primary nonferrous industries		12	3,845.4	3,791.3	3,716.7	986.6	980.1	2,804.7	2,736.6	(D)	18.9
33553 11	Made in aluminum rolling and drawing mills, n.e.c. (industries 3353, 3354, and 3355)[6]		7	1,489.6	500.0	529.4	1,152.4	1,090.7	421.1	417.0	(D)	1,101.0
33417 11	Made in secondary nonferrous metals industry (industry 3341) and all other industries		65	1,179.8	1,073.5	978.3						
33418 -- 33554 -- 33348 --	Aluminum extrusion billet[6]		(NA)	1,267.2	840.1	863.3	398.8	417.6	447.7	445.7	179.6	221.1
33348 11	Made in primary aluminum industry (industry 3334) and other primary nonferrous industries		11	654.2	566.6	570.0	272.0	284.6	294.6	285.4	79.2	-
33554 11	Made in aluminum rolling and drawing mills, n.e.c. (industries 3353, 3354, and 3355)[6]		10	420.3	158.1	180.9	54.1	67.3	104.0	113.6	9.1	221.1
33418 11	Made in secondary nonferrous metals industry (industry 3341) and all other industries	1,000 s. tons.	10	192.7	115.4	112.4	66.3	65.7	49.1	46.7	91.3	-
33415 -- 33395 --	Precious metals and their alloys	1,000 troy oz.	(NA)	(NA)	(NA)	780.4	(NA)	(D)	(NA)	(D)	(D)	-
33395 --	Primary precious metals and their alloys		(NA)	(NA)	(NA)	464.8	(D)	(D)	(D)	(D)	(D)	-
33415 --	Secondary precious metals and their alloys		(NA)	(NA)	(NA)	315.6	(NA)	315.6	-	-	(D)	-
33395 25 33415 11 33415 81	Gold and gold-base alloys		(NA)	3,323.1	2,115.2	352.9	(D)	(D)	(D)	(D)	636.5	-
33395 25	Made in industry 3339 and other primary nonferrous industries		7	1,066.0	1,085.1	193.0	(D)	(D)	(D)	(D)	(D)	-
33415 11 33415 81	Made in industry 3341 and other secondary industries:											
33415 11	Unalloyed		13	2,257.2	1,030.2	160.0	1,030.2	160.0	-	-	(D)	-
33415 81	Alloyed		-	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33395 35 33415 31 33415 71	Silver and silver-base alloys	1,000 troy oz.	(NA)	111,623.0	80,221.5	388.3	(D)	(D)	-	-	(D)	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments, including interplant transfers: Total Quantity	Total Value (million dollars)	Shipments to other companies Quantity	Shipments to other companies Value (million dollars)	Interplant transfers Quantity	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1977--Con.									
	SECONDARY NONFERROUS METALS--Con.											
33415 -- 33395 --	Precious metals and their alloys--Con.											
33395 35	Made in industry 3339 and other primary nonferrous industries	1,000 troy oz.	5	111,623.0	80,221.5	388.3	-	-	(D)	(D)	(D)	-
33415 31 33415 71	Made in industry 3341 and other secondary industries:											
33415 31	Unalloyed		17									
33415 71	Alloyed		-	-	-	-	-	-	-	-	-	-
33395 45 33415 51 33415 89	Platinum, including platinum-group metals, and alloys		(NA)	5,534.4	4,845.9	26.3	4,845.9	26.3	-	-	(D)	-
33395 45	Made in industry 3339 and other primary nonferrous industries		2	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33415 51 33415 89	Made in industry 3341 and other secondary industries:											
33415 51	Unalloyed		9	851.5	262.4	21.6	262.4	21.6	-	-	(D)	-
33415 89	Alloyed		3	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33415 00 33395 00	Precious metals and their alloys, n.s.k.	1,000 troy oz.	(NA)	(NA)	(NA)	[11]12.9	(NA)	[11]12.9	-	-	-	-
33416 -- 33397 --	Other nonferrous metals and their alloys, n.e.c.	1,000 s. tons.	(NA)	(NA)	(NA)	1,028.2	(NA)	763.2	(NA)	265.0	(NA)	(NA)
33397 --	Other primary nonferrous metals, n.e.c.		(NA)	(NA)	(NA)	940.0	(NA)	(D)	(NA)	(D)	(NA)	(NA)
33416 --	Other secondary nonferrous metals, n.e.c.		(NA)	(NA)	(NA)	96.0	(NA)	(D)	(NA)	(D)	(NA)	(NA)
33397 23 33416 51	Cadmium, unalloyed		(NA)	2.3	2.0	11.8	2.0	11.8	-	-	(D)	-
33397 23	Made in industry 3339 and other primary nonferrous industries		6	2.3	2.0	11.5	2.0	11.5	-	-	-	-
33416 51	Made in industry 3341 and other secondary industries		1	(Z)	(Z)	.3	(Z)	.3	-	-	-	-
33397 33 33416 61 33416 21	Magnesium and magnesium-base alloys		(NA)	130.0	124.5	241.3	(D)	(D)	(D)	(D)	-	(D)
33397 33	Made in industry 3339 and other primary nonferrous industries		3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33416 61 33416 21	Made in industry 3341 and other secondary industries:											
33416 61	Unalloyed		-	-	-	-	-	-	-	-	-	-
33416 21	Alloyed		2	(D)	(D)	(D)	(D)	(D)	-	-	-	(Z)
33397 43 33416 69 33416 31	Nickel and nickel-base alloys		(NA)	45.7	41.2	127.7	(D)	(D)	(D)	(D)	(D)	(D)
33397 43	Made in industry 3339 and other primary nonferrous industries		1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33416 69 33416 31	Made in industry 3341 and other secondary industries:											
33416 69	Unalloyed		1	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33416 31	Alloyed		7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33397 63 33416 71	Tin, unalloyed		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33397 63	Made in industry 3339 and other primary nonferrous industries		4	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33416 71	Made in industry 3341 and other secondary industries		9	1.3	1.3	13.4	(D)	(D)	(D)	(D)	-	-
33397 81	Chromium, unalloyed		2	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33397 85	Silicon, unalloyed	1,000 s. tons.	5	(S)	(S)	91.5	(S)	(D)	(S)	(D)	-	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production[2]	Product shipments including interplant transfers[1]				Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers	
					Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)		
			1977--Con.									
	SECONDARY NONFERROUS METALS--Con.											
33416 -- 33397 --	Other nonferrous metals and their alloys, n.e.c.--Con.											
33397 89 33416 89	Other unalloyed nonferrous metals, including metal-bearing furnace residues and other metal products which have to be refined before sale to customers	1,000 s. tons.	(NA)	(S)	(S)	157.3	(D)	(D)	(D)	(D)	(D)	(D)
33397 89	Made in industry 3339 and other primary nonferrous industries		5	(S)	(S)	144.1	(D)	(D)	(D)	(D)	(D)	-
33416 89	Made in industry 3341 and other secondary industries		6	(S)	(S)	13.2	(D)	(D)	(D)	(D)	(D)	(D)
33397 98 33416 43	Other nonferrous metals and their alloys[5]		(NA)	(S)	(S)	287.2	(S)	257.2	(S)	30.0	(D)	(D)
33397 98	Made in industry 3339 and other primary nonferrous industries		15	(S)	(S)	263.1	(S)	237.1	(S)	26.8	-	(D) (D)
33416 43	Made in industry 3341 and other secondary industries	1,000 s. tons.	6	(S)	(S)	13.0					(D)	-
3341 33416 98	Other unalloyed nonferrous metals, including antimony, cobalt, molybdenum, titanium sponge, etc.[8]		6	2.1	2.1	11.1	(D)	(D)	(D)	(D)	-	-
33397 00	Other primary nonferrous metals and their alloys, n.e.c., n.s.k.	.....	(NA)	(NA)	(NA)	1.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33416 00	Other secondary nonferrous metals and their alloys, n.e.c., n.s.k.	.....	(NA)	(NA)	(NA)	2.2	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33390 02	Primary nonferrous metals, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(NA)	(NA)	23.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33410 00	Secondary nonferrous metals, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(NA)	(NA)	139.7	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33410 02	Secondary nonferrous metals, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(NA)	(NA)	111.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
			1972									
33312 -- 33323 -- 33334 -- 3334- -- 3339- -- 3341- -- 33553 -- 33554 --	Refined nonferrous metals.	.....	(NA)	(NA)	(NA)	5,922.2	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33312 --	Primary refined copper	1,000 s. tons.	(NA)	2,255.5	966.5	977.9	(D)	(D)	(D)	(D)	1,281.0	35.4
33323 --	Primary refined lead		(NA)	832.4	671.6	203.5	(D)	(D)	(D)	(D)	(D)	(D)
33334 --	Primary refined zinc		(NA)	930.1	830.2	300.0	(D)	(D)	(D)	(D)	(D)	(D)
3334- --	Primary aluminum		(NA)	4,028.2	3,782.4	1,754.5	1,616.8	742.4	2,165.6	1,012.1	(D)	46.3
3339- --	Primary nonferrous metals, n.e.c.		(NA)	(NA)	(NA)	(NA)	(D)	(D)	(D)	(D)	(D)	(D)
3341- --	Secondary nonferrous metals.		(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33553 -- 33554 --	Aluminum ingot and billet made in aluminum rolling and drawing mills (industries 3353, 3354, and 3355)[6]	1,000 s. tons.	(NA)	2,162.8	354.9	167.1	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production[2]	Product shipments including interplant transfers[1]: Total quantity	Total value (million dollars)	Shipments to other companies: quantity	Shipments to other companies: value (million dollars)	Interplant transfers: quantity	Interplant transfers: value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.									
	SECONDARY NONFERROUS METALS--Con.											
33412 -- / 33312 --	Refined copper (pig, ingots, shot, etc.) and copper-base alloys	1,000 s. tons.	(NA)	(NA)	(X)	1,488.8	(D)	(D)	(D)	(D)	(X)	(D)
33312 --	Made by primary copper refiners (industry 3331) and other primary refiners		(NA)	2,255.5	966.5	977.9	(D)	(D)	(D)	(D)	1,281.0	35.4
33312 17	Cathode		(NA)									
33312 20	Wire bar		(NA)									
33312 23	Ingot and ingot bar		(NA)	2,255.5	966.5	977.9	(D)	(D)	(D)	(D)	1,281.0	35.4
33312 26	Other, including cakes, slabs, shot, etc		(NA)									
33412 --	Made by secondary refiners (industry 3341) and all other industries		(NA)	599.3	515.1	510.9	(NA)	(NA)	(NA)	(NA)	(D)	(D)
	Unalloyed:											
33412 17	Cathode		(NA)									
33412 20	Wire bar		(NA)									
33412 23	Ingot and ingot bar		(NA)	228.0	141.5	128.3	459.4	457.1	55.7	48.1	(D)	(D)
33412 26	Other, including cakes, slabs, shot, etc		(NA)									
33412 31	Copper-base alloys		(NA)	371.3	373.6	376.9						.4
33412 00	Refined copper (pig, ingots, shot, etc.) and copper-base alloys, n.s.k.		(NA)	(X)	(X)	5.7	(X)	(NA)	(X)	(NA)	(X)	(X)
33323 -- / 33413 --	Refined lead (pig, ingots, shot, etc.) and lead-base alloys		(NA)	(NA)	(X)	461.2	(D)	(D)	(D)	(D)	(D)	(D)
33323 31	Made by primary lead refiners (industry 3332) and other primary refiners		(NA)									
33323 31	Lead, unalloyed		(NA)	832.4	671.6	203.5	(D)	(D)	(D)	(D)	(D)	(D)
33323 61	Lead and tin-base alloys		(NA)									
33413 --	Made by secondary refiners (industry 3341) and all other industries		(NA)	(X)	(X)	257.7	(D)	(D)	(D)	(D)	(D)	(D)
33413 11	Unalloyed (pig, ingots, shot, etc.)		(NA)	173.1	167.0	46.3	149.6	41.1	17.4	4.9	(D)	(D)
	Lead and tin-base alloys:											
33413 21	Antimonial lead		(NA)	327.7	234.6	79.5						
33413 33	Babbitt metal		(NA)	7.3	7.8	9.3						
33413 51	Solder		(NA)	91.7	87.5	79.8	(D)	(D)	(D)	(D)	59.8	9.9
33413 71	Type metal		(NA)	21.1	17.7	7.9						
33413 98	Other lead and tin-base alloys		(NA)	58.8	31.4	12.6						
33413 00	Refined lead (pig, ingots, shot, etc.) and lead-base alloys, n.s.k.		(NA)	(X)	(X)	22.3	(X)	(NA)	(X)	(NA)	(X)	(X)
33414 -- / 33334 --	Refined zinc (pig, ingots, shot, etc.) and zinc-base alloys		(NA)	1,214.0	1,108.6	409.6	(D)	(D)	(D)	(D)	(D)	47.0
33334 --	Made by primary zinc refiners (industry 3333) and other primary refiners		(NA)	930.1	830.2	300.0	(D)	(D)	(D)	(D)	(D)	(D)
	Slab, excluding remelt zinc:											
33334 31	Special high grade		(NA)									
33334 35	Prime western		(NA)	855.3	760.5	267.1	(D)	(D)	(D)	(D)	(D)	(D)
33334 38	Other grades		(NA)									
	Slab, remelt zinc:											
33334 41	Special high grade		(NA)									
33334 45	Prime western		(NA)	60.8	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33334 48	Other grades		(NA)									
33334 55	Dust	1,000 s. tons.	(NA)	14.0	(D)	(D)	(D)	(D)	-	-	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments including interplant transfers[1]: Total quantity of total production[2]	Total: Quantity	Total: Value (million dollars)	Shipments to other companies: Quantity	Shipments to other companies: Value (million dollars)	Interplant transfers: Quantity	Interplant transfers: Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.									
	SECONDARY NONFERROUS METALS--Con.											
33414 -- 33334 --	Refined zinc (pig, ingots, shot, etc.) and zinc-base alloys--Con.											
33414 --	Made by secondary refiners (industry 3341) and all other industries	1,000 s. tons.	(NA)	265.1	259.4	109.6	259.4	109.6	-	-	(D)	(D)
	Slab, excluding remelt zinc (unalloyed):											
33414 10	Special high grade		(NA)	46.8	46.5	20.0	46.5	20.0	-	-	-	-
33414 14	Prime western		(NA)									
33414 17	Other grades		(NA)									
	Slab, remelt zinc (unalloyed):											
33414 20	Special high grade		(NA)	(D)	(D)	(D)	(D)	(D)	-	-	(D)	(D)
33414 23	Prime western		(NA)									
33414 26	Other grades		(NA)									
33414 05	Dust		(NA)	(D)	(D)	(D)	(D)	(D)	-	-	(D)	(D)
33414 11	Zinc-base alloys		(NA)	191.4	188.8	78.3	188.8	78.3	-	-	(D)	(D)
3334- -- 33417 -- 33418 -- 33553 -- 33554 --	Aluminum ingot and billet[6]		(NA)	7,030.4	4,879.4	2,290.6	2,426.8	1,158.7	2,452.6	1,131.9	(D)	(D)
3334- --	Primary aluminum		(NA)	4,028.2	3,782.4	1,754.5	1,616.8	742.4	2,165.6	1,012.1	(D)	(D)
33417 -- 33418 --	Secondary aluminum		(NA)	839.4	742.1	369.0	(D)	(D)	(D)	(D)	(D)	(D)
33553 -- 33554 --	Aluminum ingot and billet made in aluminum rolling and drawing mills (industries 3353, 3354, and 3355)[6]		(NA)	2,162.8	354.9	167.1	(D)	(D)	(D)	(D)	(D)	(D)
33417 -- 33347 -- 33553 --	Aluminum ingot[6]		(NA)	5,912.2	4,164.6	1,971.2	1,983.2	951.6	2,181.4	1,019.6	(D)	(D)
33347 11	Made in primary aluminum industry (industry 3334) and other primary nonferrous industries		(NA)	3,458.8	3,240.0	1,513.8	1,279.9	586.7	1,960.1	927.1	(D)	46.3
33553 11	Made in aluminum rolling and drawing mills, n.e.c. (industries 3353, 3354, and 3355)[6]		(NA)	1,739.6	253.3	120.5	703.3	364.9	221.3	92.5	-	(D)
33417 11	Made in secondary nonferrous metals industry (industry 3341) and all other industries		(NA)	713.8	671.3	336.9					42.2	1.0
33418 -- 33554 -- 33348 --	Aluminum extrusion billet[6]		(NA)	1,118.2	714.8	319.4	443.6	207.1	271.2	112.3	(D)	313.5
33348 11	Made in primary aluminum industry (industry 3334) and other primary nonferrous industries		(NA)	569.4	542.4	240.7	336.9	155.7	205.5	85.0	(D)	-
33554 11	Made in aluminum rolling and drawing mills (industries 3353, 3354, and 3355)[6]		(NA)	423.2	101.6	46.6	106.7	51.4	65.7	27.3	53.0	313.5
33418 11	Made in secondary nonferrous metals industry (industry 3341) and all other industries	1,000 s. tons.	(NA)	125.6	70.8	32.1						

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production[2]	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)		
			1972--Con.									
	SECONDARY NONFERROUS METALS--Con.											
33415 -- 33395 --	Precious metals and their alloys..	1,000 troy oz.	(NA)	(X)	(X)	527.4	(D)	(D)	(D)	(D)	(X)	(X)
33395 25 33415 11 33415 81	Gold and gold-base alloys.....		(NA)	(D)	4,058.3	216.6	(D)	(D)	(D)	(D)	(D)	(D)
33395 25	Made in industry 3339 and other primary nonferrous industries.....		(NA)	3,827.6	2,747.3	169.6	(D)	(D)	(D)	(D)	(D)	(D)
33415 11 33415 81	Made in industry 3341 and other secondary industries:											
33415 11	Unalloyed.....		(NA)	623.4	615.9	24.6	615.9	24.6	-	-	(D)	(D)
33415 81	Alloyed.....		(NA)	(D)	695.1	22.4	695.1	22.5	-	-	-	(D)
33395 35 33415 31 33415 71	Silver and silver-base alloys...		(NA)	(D)	124,982.4	199.8	124,144.3	198.3	838.1	1.5	304.5	45,400.8
33395 35	Made in industry 3339 and other primary nonferrous industries.....		(NA)	126,793.8	93,649.3	155.4	(D)	(D)	(D)	(D)	(D)	(D)
33415 31 33415 71	Made in industry 3341 and other secondary industries:											
33415 31	Unalloyed.....		(NA)	9,810.5	9,421.8	16.7	(D)	(D)	(D)	(D)	(D)	(D)
33415 71	Alloyed.....		(NA)	(D)	1,911.3	27.7	(D)	(D)	-	-	-	(D)
33395 45 33415 51 33415 89	Platinum, including platinum-group metals and alloys.....		(NA)	(D)	848.8	85.9	(D)	(D)	(D)	(D)	(D)	(D)
33395 45	Made in industry 3339 and other primary nonferrous industries.....		(NA)	(D)	42.3	4.4	(D)	(D)	(D)	(D)	(D)	(D)
33415 51 33415 89	Made in industry 3341 and other secondary industries:											
33415 51	Unalloyed.....		(NA)	464.8	455.4	35.5	455.4	35.5	-	-	(D)	(D)
33415 89	Alloyed.....		(NA)	348.1	351.1	46.0	351.1	46.0	-	-	-	-
33395 00 33415 00	Precious metals, and their alloys, n.s.k.....	1,000 troy oz.	(NA)	(X)	(X)	25.1	(X)	(NA)	(X)	(NA)	(X)	(X)
33416 -- 33397 --	Other nonferrous metals and their alloys, n.e.c.....	1,000 s. tons.	(NA)	(X)	(X)	(NA)	(X)	(NA)	(X)	(NA)	(X)	(X)
33397 23 33416 51	Cadmium, unalloyed.....		(NA)	5.6	4.9	23.4	(D)	(D)	(D)	(D)	(D)	(D)
33397 23	Made in industry 3339 and other primary nonferrous industries.....		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33416 51	Made in industry 3341 and other secondary industries...		(NA)	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33397 33 33416 61 33416 21	Magnesium and magnesium-base alloys.....		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33397 33	Made in industry 3339 and other primary nonferrous industries.....		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33416 61 33416 21	Made in industry 3341 and other secondary industries...		(NA)	46.8	(D)	(D)	(D)	(D)	-	-	-	-
33416 61	Unalloyed.....		(NA)	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33416 21	Alloyed.....		(NA)	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33397 43 33416 69 33416 31	Nickel and nickel-base alloys...		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33397 43	Made in industry 3339 and other primary nonferrous industries.....		(NA)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	-	(D)
33416 69 33416 31	Made in industry 3341 and other secondary industries:											
33416 69	Unalloyed.....		(NA)	-	-	-	-	-	-	-	-	-
33416 31	Alloyed.....	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production[2]	Product shipments including interplant transfers[1]: Total Quantity	Total Value (million dollars)	Shipments to other companies Quantity	Shipments to other companies Value (million dollars)	Interplant transfers Quantity	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.									
	SECONDARY NONFERROUS METALS--Con.											
33416 -- 33397 --	Other nonferrous metals and their alloys, n.e.c.--Con.											
33397 63 33416 71	Tin, unalloyed	1,000 s. tons.	(NA)	(S)	(S)	(S)	(D)	(D)	(D)	(D)	(D)	-
33397 63	Made in industry 3339 and other primary nonferrous industries		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33416 71	Made in industry 3341 and other secondary industries		(NA)	(D)	(D)	(D)	.5	2.0	(D)	(D)	(D)	-
33397 73 33416 81	Titanium sponge[8]		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33397 81	Chromium, unalloyed		(NA)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)
33397 85	Silicon, unalloyed		(NA)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)
33397 89 33416 89	Other unalloyed nonferrous metals, including metal-bearing furnace residues and other metal products which have to be refined before sale to customers		(NA)	1,543.2	420.1	74.7	393.7	70.5	26.3	4.2	(D)	(D)
33397 89	Made in industry 3339 and other primary nonferrous industries		(NA)	1,537.6	414.5	65.6	388.1	61.4	26.3	4.2	(D)	(D)
33416 89	Made in industry 3341 and other secondary industries		(NA)	5.6	5.6	9.1	5.6	9.1	-	-	-	-
33397 98 33416 43	Other nonferrous metals and their alloys		(NA)	45.2	42.7	139.5	41.5	109.4	1.1	30.1	(D)	(D)
33397 98	Made in industry 3339 and other primary nonferrous industries		(NA)	[9]37.6	[9]36.1	[9]117.1	[9]34.9	[9]87.0	[9]1.1	[9]30.1	(D)	(D)
33416 43	Made in industry 3341 and other secondary industries	1,000 s. tons.	(NA)	7.6	6.6	22.4	6.6	22.4	-	-	(D)	(D)
33397 00 33416 00	Other nonferrous metals and their alloys, n.e.c., n.s.k.	.....	(NA)	(NA)	(NA)	35.6	(NA)	(NA)	(X)	(NA)	(X)	(X)
33390 00	Primary nonferrous metals, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(NA)	(NA)	18.7	(NA)	(NA)	(X)	(NA)	(X)	(X)
33390 02	Primary nonferrous metals, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(NA)	(NA)	2.2	(NA)	(NA)	(X)	(NA)	(X)	(X)
33410 00	Secondary nonferrous metals, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(NA)	(NA)	145.0	(X)	(NA)	(X)	(NA)	(X)	(X)
33410 02	Secondary nonferrous metals, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(NA)	(NA)	26.4	(NA)	(NA)	(X)	(NA)	(X)	(X)

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For 1977, quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For 1977, for some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Total production and total shipments have been treated as shipments to other companies.

[4]Product codes 33334 31 and 3334 41 have been combined to avoid disclosing individual company operations.

[5]Product codes 33334 35 and 33334 38 have been combined to avoid disclosing individual company operations.

[6]Most aluminum ingot and billet alloys produced by rolling and drawing mills represent duplication of tonnage reported by aluminum refiners (industries 3334 and 3341.) Aluminum produced in rolling mills is made from ingot produced in aluminum refining and reduction plants.

[7]For 1977, product codes 33415 11 and 33415 81 were combined to avoid disclosing individual company operations.

[8]For 1977, 33416 98 includes titanium sponge. In 1972, titanium sponge was reported separately.

[9]For 1972, product codes 33397 81 and 33397 85 were included with product code 33397 98.

[10]The value of product shipments of product class 33323 was not included in total for 3341, Refined Nonferrerous Metals to avoid disclosing individual company operations.

[11]N.s.k. for total value was treated as shipments to other companies.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
33311, COPPER SMELTER PRODUCTS		
United States	1,566.2	1,358.0
Mountain Division:		
Arizona	685.5	GG
33331, ZINC RESIDUES AND OTHER ZINC SMELTER PRODUCTS		
United States	39.9	37.3
East North Central Division:		
Illinois	3.1	(NA)
33334, REFINED PRIMARY ZINC AND ZINC-BASE ALLOYS		
United States	326.4	300.0
33347, PRIMARY ALUMINUM INGOT, EXCEPT BILLET		
United States	3,721.5	1,513.8
Pacific Division:		
Washington	808.3	(NA)
33348, PRIMARY ALUMINUM EXTRUSION BILLET		
United States	570.0	240.7
Pacific Division:		
Washington	110.4	(NA)
33397, OTHER PRIMARY NONFERROUS METALS		
United States	940.0	(NA)
Middle Atlantic Division:		
New Jersey	15.1	(NA)
33412, SECONDARY COPPER AND COPPER-BASE ALLOYS		
United States	616.6	510.9
New England Division:		
Massachusetts	18.7	(NA)
Middle Atlantic Division:		
New Jersey	26.1	(NA)
Pennsylvania	112.0	(NA)
East North Central Division:		
Ohio	44.1	(NA)
Illinois	170.7	(NA)
Pacific Division:		
California	34.8	(NA)
33413, SECONDARY LEAD AND LEAD-BASE TIN-BASE ALLOYS		
United States	680.3	257.6
Middle Atlantic Division:		
New York	73.8	(NA)
Pennsylvania	86.7	(NA)
East North Central Division:		
Ohio	25.3	(NA)
Indiana	39.7	(NA)
Illinois	61.1	(NA)
33413, SECONDARY LEAD AND LEAD-BASE TIN-BASE ALLOYS--Con.		
South Atlantic Division:		
Georgia	45.8	(NA)
West South Central Division:		
Texas	74.2	(NA)
Pacific Division:		
California	54.6	(NA)
33414, SECONDARY ZINC, AND ZINC-BASE ALLOYS		
United States	144.7	109.6
Middle Atlantic Division:		
New York	8.1	(NA)
East North Central Division:		
Illinois	35.1	(NA)
Pacific Division:		
California	18.7	(NA)
33415, SECONDARY PRECIOUS METALS AND THEIR ALLOYS		
United States	315.6	(NA)
Middle Atlantic Division:		
New York	67.0	(NA)
Pacific Division:		
California	40.5	(NA)
33416, OTHER SECONDARY NONFERROUS METALS AND ALLOYS		
United States	96.0	(NA)
South Atlantic Division:		
Maryland	5.9	(NA)
Pacific Division:		
California	4.7	(NA)
33417, SECONDARY ALUMINUM INGOT, EXCEPT BILLET		
United States	978.3	341.0
Middle Atlantic Division:		
New York	46.3	(NA)
Pennsylvania	26.4	(NA)
East North Central Division:		
Ohio	130.7	(NA)
Illinois	119.2	(NA)
Pacific Division:		
California	87.4	(NA)
33418, SECONDARY ALUMINUM EXTRUSION BILLET		
United States	112.4	28.0
Pacific Division:		
California	8.0	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3331-	Primary copper	3,254.6	2,996.9	2,371.5	3,335.4	2,972.5	2,336.2	1,018.5	1,049.9
33311	Copper smelter products	1,566.2	1,732.4	1,411.2	1,932.9	1,683.5	1,358.0	547.6	628.5
33312	Refined primary copper (see 33412)	1,687.9	1,261.9	960.3	1,402.5	1,289.0	977.9	453.6	421.4
33310	Primary copper, n.s.k.	.5	2.7	-	(NA)	(NA)	.3	17.3	-
3332-	Primary lead	530.6	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33321	Lead smelter products	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33323	Refined primary lead (see 33413)	(D)	249.5	222.1	278.7	233.3	203.5	123.3	74.5
33320	Primary lead, n.s.k.	-	-	(2.8)	(D)	(D)	-	-	-
3333-	Primary zinc	366.3	486.4	402.8	587.4	366.6	337.3	285.5	265.1
33331	Zinc residues and other zinc smelter products	39.9	63.0	68.8	113.5	58.8	37.3	23.8	34.8
33334	Refined primary zinc and zinc-base alloys (see 33414)	326.4	(423.4)	(334.0)	473.9	307.8	300.0	261.7	230.3
33330	Primary zinc, n.s.k.	-	-	-	(NA)	(NA)	-	-	-
3334-	Primary aluminum	4,291.4	3,805.7	2,759.8	2,814.0	2,245.3	1,754.5	1,535.5	1,069.6
33347	Primary aluminum ingot, except billet (see 33417 and 33553)	3,721.5	3,305.7	2,484.3	2,377.2	1,889.3	1,513.8	1,324.1	946.8
33348	Primary aluminum extrusion billet (see 33418 and 33554)	570.0	500.0	275.5	436.8	356.0	240.7	211.4	112.8
33340	Primary aluminum, n.s.k.	-	23.9	(2)	(NA)	(NA)	-	-	-
3339-	Primary nonferrous metals, n.e.c.	1,431.9	1,469.9	1,459.9	1,524.1	1,033.5	662.7	(NA)	(NA)
33395	Refined precious metals and precious alloys (see 33415)	464.8	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33397	Other primary nonferrous metals (see 33416)	940.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33390	Primary nonferrous metals, n.e.c., n.s.k.	27.1	(1)	(17.1)	(45.4)	20.9	13.2	(NA)	(NA)
3341-	Secondary nonferrous metals	3,194.9	3,103.2	2,757.2	3,283.8	2,377.3	1,873.7	(NA)	(NA)
33412	Secondary copper and copper-base alloys (see 33312)	616.6	622.2	(539.9)	806.8	608.6	510.9	364.8	247.2
33413	Secondary lead and lead-base and tin-base alloys	680.3	461.7	438.0	472.1	323.9	257.6	235.6	191.4
33414	Secondary zinc and zinc-base alloys	144.7	163.1	(139.7)	195.3	166.5	109.6	53.6	43.5
33415	Secondary precious metals and their alloys (see 33395)	315.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33416	Other secondary nonferrous metals and alloys (see 33397)	96.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33417	Secondary aluminum ingot, except billet (see 33347 and 33553)	978.3	616.4	466.7	646.7	474.9	341.0	(NA)	(NA)
33418	Secondary aluminum extrusion billet (see 33348 and 33554)	112.4	(90.9)	(59.5)	48.3	(30.9)	28.0	(NA)	(NA)
33410	Secondary nonferrous metals, n.s.k.	251.0	(116.2)	(90.4)	(138.6)	118.3	171.4	66.5	24.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3331, PRIMARY COPPER					
	Materials, parts, containers, and supplies		(X)	2,885.7	(X)	2,220.0
	Copper:					
102100	Ores, concentrates and precipitates	1,000 s. tons	5,249.1	1,271.3	5,889.6	1,189.2
333121	Refined unalloyed copper (cathodes, ingots, cakes, slabs, etc.)		1,286.2	1,524.9	809.3	889.0
333111	Blister or anode copper					
999812	Copper and copper-base alloy scrap (purchased scrap only)	1,000 s. tons	(X)	89.5	37.8	35.8
970099	All other materials and components, parts, containers, and supplies					
971000	Materials, parts, containers, and supplies, n.s.k.[2]		-	-	(X)	106.0
	INDUSTRY 3332, PRIMARY LEAD					
	Materials, parts, containers, and supplies		(X)	489.4	(X)	347.9
	Lead:					
103101	Ores and concentrates	1,000 s. tons	981.9	284.4	1,159.8	202.8
333233	Refined unalloyed lead		-	-	(S)	125.8
999813	Lead and lead-base alloy scrap	1,000 s. tons	-	-		
970099	All other materials and components, parts, containers, and supplies		(X)	205.0	(X)	19.3
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	-	(X)	-
	INDUSTRY 3333, PRIMARY ZINC					
	Materials, parts, containers, and supplies		(X)	249.3	(X)	223.9
	Zinc:					
103103	Ores and concentrates	1,000 s. tons	936.2	196.8	1,400.0	142.5
333341	Refined unalloyed zinc		8.7	5.7	99.4	34.1
999814	Zinc and zinc-base alloy scrap, including drosses and skimmings (purchased scrap only)	1,000 s. tons	(D)	46.4	88.3	14.6
970099	All other materials and components, parts, containers, and supplies		(X)		(X)	32.7
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	.4	(X)	-
	INDUSTRY 3334, PRIMARY ALUMINUM					
	Materials, parts, containers, and supplies	1,000 s. tons	(X)	1,905.7	(X)	785.1
281951	Alumina		7,961.9	1,192.7	7,942.2	500.4
999808	Aluminum and aluminum-base alloy scrap		29.0	21.0		
333974	Magnesium ingot	1,000 s. tons	18.8	37.0	(X)	284.7
970099	All other materials and components, parts, containers, and supplies		(X)	655.0		
	INDUSTRY 3339, PRIMARY NONFERROUS METALS, N.E.C.					
	(Materials consumed data were not collected for industry 3339)					
	INDUSTRY 3341, SECONDARY NONFERROUS METALS					
	Materials, parts, containers, and supplies		(X)	2,393.8	(X)	1,406.9
333471	Aluminum ingot	1,000 s. tons	62.7	60.1	43.9	18.1
	Aluminum and aluminum-base alloy scrap, excluding home scrap:					
999809	From other establishments of company		174.8	105.5	202.5	64.0
999810	From all other sources		**851.8	548.8	619.9	161.5
	Copper:					
333121	Refined unalloyed copper (cathodes, ingots, cakes, slabs, etc.)		2.7	3.2	20.6	18.1
999812	Copper and copper-base alloy scrap		659.2	433.5	447.3	351.2
	Lead:					
333233	Refined unalloyed lead		25.8	15.0	25.3	7.3
999813	Lead and lead-base alloy scrap		965.6	351.1	418.4	89.1
	Zinc:					
333341	Refined unalloyed zinc		85.9	53.4	73.3	26.2
999814	Zinc and zinc-base alloy scrap, including drosses and skimmings		141.6	67.2	119.7	26.8
	Tin:					
333976	Refined unalloyed tin		7.3	70.9	12.3	43.0
999815	Tin plate scrap, including shredded steel can scrap		3.4	23.7	16.4	10.5
333974	Magnesium ingot	1,000 s. tons	1.3	3.7	(X)	431.6
970099	All other materials and components, parts, containers, and supplies		(X)	379.1	(X)	
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	278.6	(X)	159.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

Nonferrous Metal Mills and Miscellaneous Primary Metal Products

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DESCRIPTION OF INDUSTRIES

NONFERROUS METAL MILLS AND MISCELLANEOUS PRIMARY METAL PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3351	Copper Rolling and Drawing
3353	Aluminum Sheet, Plate, and Foil
3354	Aluminum Extruded Products
3355	Aluminum Rolling and Drawing, N.E.C.
3356	Nonferrous Rolling and Drawing, N.E.C.
3357	Nonferrous Wire Drawing and Insulating
3398	Metal Heat Treating
3399	Primary Metal Products, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3351, COPPER ROLLING AND DRAWING

This industry comprises establishments primarily engaged in rolling, drawing, and extruding copper, brass, bronze, and other copper base alloy basic shapes, such as plate, sheet, strip, bar, and tubing. Establishments primarily engaged in recovering copper and its alloys from scrap or dross are classified in industry 3341.

This industry includes a variety of operations ranging from rod, wire, tube, and flat product mills to machine shop and fabricating activities. Accordingly, in order to provide a measure of the relative importance of these departments, data were collected on man-hours worked and production-worker wages paid for each of several departments.

Also, based on the data reported for these various departmental operations, it was possible to further classify the establishments of this industry into two "subindustries"; i.e., establishments with casting facilities and establishments without casting facilities. Separate data are shown for these subindustries in tables 2, 4, and 5a.

The total value of shipments for establishments classified in the Copper Rolling and Drawing industry amounted to $4,014 million in 1977, an increase of 30 percent from 1972. The value of shipments of products classified as primary to the industry was $3,536 million, an increase of 25 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $974 million in 1977, was 22 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 31.3 thousand employees, a decrease of 17 percent from 1972. The leading States in employment were Connecticut, Illinois, Pennsylvania, and Georgia, accounting for approximately 50 percent of the industry's 1977 employment. Data for Georgia have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL

This industry comprises establishments primarily engaged in flat rolling aluminum and aluminum base alloy basic shapes such as sheet, plate, and foil, including establishments producing welded tube. Also included are establishments primarily producing similar products by continuous casting.

Companies with establishments classified in this industry were queried as to whether or not the company also operated

aluminum reduction facilities. Based on this inquiry, it was possible to further classify the establishments into two "subindustries"; i.e., establishments with melting facilities and establishments without melting facilities. Separate data are shown for these subindustries in tables 4 and 5a.

The total value of shipments for establishments classified in the Aluminum Sheet, Plate, and Foil industry amounted to $5,924 million in 1977, an increase of 120 percent from 1972. The value of shipments of products classified as primary to the industry was $5,359 million, an increase of 139 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,294 million in 1977, was 87 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 31.4 thousand employees; the same as in 1972. The leading States in employment were Illinois, Alabama, Tennessee, and West Virginia, accounting for approximately 50 percent of the industry's 1977 employment. Data for Alabama, Tennessee, and West Virginia have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS

This industry comprises establishments primarily engaged in extruding aluminum and aluminum base alloy basic shapes such as rod and bar, pipe and tube, and tube blooms, including establishments producing tube by drawing.

Companies with establishments classified in this industry were queried as to whether or not the company also operated aluminum reduction facilities. Based on this inquiry, it was possible to further classify the establishments into two "subindustries"; i.e., establishments with melting facilities and establishments without melting facilities. Separate data are shown for these subindustries in tables 4 and 5a.

The total value of shipments for establishments classified in the Aluminum Extruded Products industry amounted to $2,050 million in 1977, an increase of 90 percent from 1972. The value of shipments of products classified as primary to the industry was $1,928 million, an increase of 88 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $679 million in 1977, was 59 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 26.5 thousand employees, a decrease of 4 percent from 1972. The leading States in employment were California, Michigan, Indiana, and Pennsylvania, accounting for approximately 45 percent of the industry's 1977 employment. Data for Pennsylvania have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.

This industry comprises establishments primarily engaged in rolling, drawing, and other operations resulting in the production of aluminum ingot, including extrusion ingot, and aluminum and aluminum base alloy basic shapes, not elsewhere classified, such as rolled and continuous cast rod and bar. Establishments primarily engaged in producing aluminum powder, flake, and paste are classified in industry 3399, and those producing aluminum wire and cable from purchased wire bars, rods, or wire in industry 3357.

Companies with establishments classified in industry 3355 were queried as to whether or not the company also operated aluminum reduction facilities. Based on this inquiry, it was possible to further classify the establishments into two "subindustries"; i.e., establishments with melting facilities and establishments without melting facilities. Subindustry data were suppressed, however, to avoid disclosure for individual companies. For a detailed list of products of industry 3355, refer to table 6a, product codes 33551 11 to 33554 11.

The total value of shipments for establishments classified in the Aluminum Rolling and Drawing, N.E.C. industry amounted to $1,001 million in 1977, an increase of 191 percent from 1972. The value of shipments of products classified as primary to the industry was $1,368 million, an increase of 100 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $223 million in 1977, was 289 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 4.7 thousand employees, an increase of 2 percent from 1972. The leading States in employment were New York, Washington, Ohio, and Tennessee, accounting for approximately 70 percent of the industry's 1977

employment. Data for these States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Certain products primary to industry 3355 are also primary to Industry 3357, Drawing and Insulating of Nonferrous Wire. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.

This industry comprises establishments primarily engaged in rolling, drawing, and extruding nonferrous metals other than copper (industry 3351) and aluminum (industries 3353, 3354, and 3355). The products of this industry are produced in the form of basic shapes such as plate, sheet, strip, bar, and tubing. Establishments primarily engaged in recovering nonferrous metals and alloys from scrap or dross are classified in industry 3341; those manufacturing gold, silver, tin, and other foils except aluminum in industry 3497, and aluminum foil in industry 3353. For a detailed list of products of industry 3356, refer to table 6a, product codes 33561 61 to 33569 98.

The total value of shipments for establishments classified in the Nonferrous Rolling and Drawing, N.E.C. industry amounted to $2,677 million in 1977, an increase of 115 percent from 1972. The value of shipments of products classified as primary to the industry was $2,617 million, an increase of 131 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $600 million in 1977, was 60 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 17.9 thousand employees, a decrease of 1 percent from 1972. The leading States in employment were West Virginia, Ohio, Pennsylvania, and New York, accounting for approximately 45 percent of the industry's 1977 employment. Data for West Virginia, Pennsylvania, and New York have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Certain products primary to industry 3356 are also primary to industry 3357. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATING

This industry comprises establishments primarily engaged in drawing, drawing and insulating, and insulating wire and cable of nonferrous metals from purchased wire bars, rods, or wire.

Based on the data reported for various departmental operations, it was possible to classify the establishments into four "subindustries"; i.e., establishments with wiredrawing department and rod mill, establishments with wiredrawing department with neither a rod mill nor an insulating department, establishments with wiredrawing and insulating departments but without rod mill, and establishments without a wiredrawing department. Separate data are shown for these subindustries in tables 4 and 5a.

The total value of shipments for establishments classified in the Nonferrous Wiredrawing and Insulating industry amounted to $6,595 million in 1977, an increase of 50 percent from 1972. The value of shipments of products classified as primary to the industry was $6,460 million, an increase of 44 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,118 million in 1977, was 46 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 66.3 thousand employees, a decrease of 4 percent from 1972. The leading States in employment were New York, Indiana, Rhode Island, and Massachusetts, accounting for approximately 35 percent of the industry's 1977 employment.

Certain products primary to industry 3357 are also primary to industries 3355, 3356, and 3496. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3398, METAL HEAT TREATING

This industry comprises establishments primarily engaged in heat treating of metal for the trade. For a detailed list of products of industry 3398, refer to table 6a, product code 33980 11.

The total value of shipments for establishments classified in

the Metal Heat Treating industry amounted to $745 million in 1977, an increase of 58 percent from 1972. The value of shipments of products classified as primary to the industry was $704 million, an increase of 52 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $467 million in 1977, was 49 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 16.9 thousand employees, a decrease of 2 percent from 1972. The leading States in employment were Michigan, Ohio, California, and Illinois, accounting for approximately 55 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 91 percent of total value of shipments.

INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of primary metal products, not elsewhere classified, such as nonferrous nails, brads, and spikes, and metal powder, flakes, and paste. For a detailed list of products of industry 3399, refer to table 6a, product codes 33991 11 to 33992 98.

The total value of shipments for establishments classified in the Primary Metal Products, N.E.C. industry amounted to $751 million in 1977, an increase of 116 percent from 1972. The value of shipments of products classified as primary to the industry was $968 million, an increase of 132 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $297 million in 1977, was 80 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 9.0 thousand employees, an increase of 15 percent from 1972. The leading States in employment were New Jersey, Pennsylvania, and Michigan, accounting for approximately 30 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 13 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3351, COPPER ROLLING AND DRAWING																
1977 Census--	101	140	99	31.3	455.5	24.2	50.5	338.7	973.7	3 019.9	4 013.8	64.4	(NA)	472.1	85	92
1976 ASM----	(NA)	(NA)	(NA)	34.1	460.3	26.5	54.9	336.5	979.0	2 843.2	3 779.6	63.2	1 256.9	492.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	32.2	383.8	24.0	46.8	270.0	691.7	2 160.1	2 873.7	55.6	1 235.6	431.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	37.8	437.8	29.5	61.2	325.3	1 000.2	3 489.7	4 493.7	54.4	1 162.2	415.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	39.9	434.9	31.8	67.3	330.6	1 022.1	2 950.4	3 964.6	51.7	1 121.2	379.8	(NA)	(NA)
1972 Census--	101	149	117	37.8	383.7	29.9	63.2	288.4	800.3	2 313.8	3 098.8	65.3	1 154.7	327.7	89	93
1971 ASM----	(NA)	(NA)	(NA)	36.9	336.5	28.9	58.7	248.9	683.7	2 105.9	2 784.5	34.8	1 039.9	301.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	39.0	335.6	30.4	60.8	245.0	690.5	2 371.1	3 094.2	69.4	1 047.2	312.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	41.2	354.5	32.7	68.5	267.6	800.2	2 238.3	3 031.6	79.5	938.3	311.4	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	39.9	316.2	31.7	64.3	235.3	751.5	1 856.6	2 588.0	73.8	857.9	290.8	(NA)	(NA)
1967 Census--	86	125	108	40.3	293.9	32.2	64.5	219.0	704.4	1 658.2	2 391.1	68.0	807.0	276.3	90	93
1966 ASM----	(NA)	(NA)	(NA)	40.9	314.3	33.3	72.0	244.1	897.9	1 985.7	2 846.3	59.9	(NA)	303.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	39.5	285.3	32.0	67.8	218.9	617.4	1 647.1	2 254.0	44.5	(NA)	238.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	39.5	273.6	31.9	67.3	210.4	525.9	1 387.4	1 923.5	34.5	661.5	221.4	(NA)	(NA)
1963 Census--	81	112	92	38.9	260.3	31.5	65.7	200.2	478.4	1 188.5	1 657.5	43.5	638.7	218.4	90	91
INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL[3]																
1977 Census--	30	53	45	31.4	613.5	25.0	50.6	480.1	1 293.8	4 900.5	5 924.0	157.7	(NA)	1 625.2	92	99
1976 ASM----	(NA)	(NA)	(NA)	30.3	529.2	24.1	48.2	413.9	1 176.2	4 266.1	5 353.1	134.8	2 258.4	1 337.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	28.1	433.5	21.3	39.9	320.7	975.4	2 947.3	3 720.8	132.2	2 196.0	1 206.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	33.0	468.5	26.0	52.8	360.5	1 409.6	3 017.2	4 227.5	108.3	2 142.5	1 001.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	33.5	432.2	26.6	56.3	329.8	930.9	2 378.3	3 309.6	52.2	2 000.3	669.9	(NA)	(NA)
1972 Census--	25	50	49	31.3	370.7	24.5	51.8	281.5	692.3	2 017.1	2 685.2	90.3	1 960.8	653.2	85	99
INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS[3]																
1977 Census--	129	193	146	26.5	355.9	21.2	44.0	264.1	678.6	1 386.1	2 050.0	48.2	(NA)	337.2	88	92
1976 ASM----	(NA)	(NA)	(NA)	24.1	290.5	19.0	38.5	205.4	566.3	1 046.7	1 588.4	30.4	552.6	298.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	20.8	226.7	16.0	31.7	157.5	464.5	746.5	1 226.4	29.1	543.5	238.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	27.7	283.7	22.3	44.6	207.4	722.2	961.7	1 657.3	42.9	515.7	275.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	30.0	280.2	24.0	49.6	207.7	542.8	797.0	1 337.8	39.2	526.7	197.3	(NA)	(NA)
1972 Census--	133	180	128	27.7	239.2	22.1	45.4	174.1	427.6	662.9	1 078.3	32.6	503.2	175.9	85	88
INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.[3]																
1977 Census--	18	22	15	4.7	78.1	3.6	6.9	56.5	222.8	754.9	1 001.0	16.1	(NA)	169.5	91	65
1976 ASM----	(NA)	(NA)	(NA)	4.2	65.9	3.1	6.1	47.3	162.7	408.0	546.6	17.1	210.5	170.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	3.9	54.3	2.8	5.1	36.2	142.1	323.6	431.9	18.0	194.5	161.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	4.8	62.0	3.8	7.4	45.6	137.1	432.3	542.4	17.8	176.4	114.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	4.8	58.0	3.9	8.1	42.5	113.6	334.0	430.5	7.9	170.8	83.8	(NA)	(NA)
1972 Census--	14	16	15	4.6	48.0	3.6	7.2	35.1	57.3	272.2	343.4	9.2	164.0	65.7	86	42

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.																
1977 Census--	154	174	87	17.9	267.7	12.3	25.2	160.9	599.8	2 048.3	2 676.5	36.1	(NA)	486.0	94	93
1976 ASM----	(NA)	(NA)	(NA)	17.1	237.2	12.3	24.2	144.6	613.4	1 310.9	1 906.5	71.5	762.4	441.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.9	228.6	12.8	24.4	139.3	584.6	1 295.6	1 826.2	73.3	705.3	433.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	20.5	238.4	15.1	30.6	154.0	634.8	1 376.7	1 970.6	91.0	646.6	366.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	20.1	211.3	14.9	30.5	135.7	493.3	1 070.8	1 578.0	29.2	600.4	299.1	(NA)	(NA)
1972 Census--	136	167	97	18.1	184.2	12.7	25.8	114.1	374.1	892.0	1 244.6	24.3	606.9	300.1	84	87
1971 ASM----	(NA)	(NA)	(NA)	20.3	185.5	13.5	26.8	109.2	366.4	704.1	1 037.9	37.3	561.3	278.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	20.4	185.2	14.2	29.8	110.5	367.4	691.0	1 052.7	45.4	531.7	234.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	21.2	182.5	15.5	31.7	113.4	370.9	687.0	1 095.7	40.7	509.5	227.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	20.9	168.1	14.4	29.7	98.5	352.5	623.1	977.8	61.8	475.5	258.2	(NA)	(NA)
1967 Census--	115	142	74	21.3	163.5	14.8	30.9	100.4	351.7	637.2	984.0	58.1	414.2	261.1	89	84
1966 ASM----	(NA)	(NA)	(NA)	21.3	166.3	15.1	32.4	103.9	380.1	694.2	1 051.1	47.7	(NA)	272.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	18.3	135.3	12.8	27.7	84.1	291.3	551.0	817.1	39.7	(NA)	229.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	17.3	123.8	12.0	25.6	76.1	252.5	443.5	690.3	37.8	296.5	215.2	(NA)	(NA)
1963 Census--	108	125	67	17.4	117.5	12.3	25.4	74.1	250.6	405.0	641.0	22.2	262.5	205.9	84	81
INDUSTRY 3357, NONFERROUS WIRE DRAWING AND INSULATING																
1977 Census--	245	421	320	66.3	876.8	50.0	101.8	603.4	2 117.6	4 493.1	6 595.4	139.8	(NA)	960.7	94	93
1976 ASM----	(NA)	(NA)	(NA)	61.5	756.1	46.3	92.9	518.6	1 862.4	3 778.2	5 579.0	121.6	2 008.2	871.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	59.0	680.7	43.5	85.2	450.4	1 731.5	3 128.9	4 908.8	164.6	1 960.6	795.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	76.0	820.4	57.6	116.9	553.1	2 387.6	4 568.0	6 866.2	185.9	1 937.9	978.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	72.9	735.3	56.0	119.2	516.2	1 767.0	3 642.1	5 375.8	129.7	1 735.2	750.6	(NA)	(NA)
1972 Census--	206	341	278	68.8	645.6	52.9	110.4	452.2	1 448.0	2 984.4	4 412.3	149.7	1 743.9	657.8	94	89
1971 ASM----	(NA)	(NA)	(NA)	63.2	552.2	47.9	98.7	373.5	1 260.5	2 538.5	3 800.6	167.0	1 474.8	607.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	67.1	542.3	50.7	106.6	374.7	1 360.0	2 709.1	4 050.0	167.7	1 349.5	607.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	68.0	535.3	51.8	110.1	371.5	1 205.3	2 571.0	3 748.2	83.6	1 236.2	579.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	66.0	489.0	50.0	105.7	339.8	1 140.1	2 275.4	3 380.3	143.2	(NA)	525.4	(NA)	(NA)
1967 Census--	206	348	275	71.7	501.6	55.3	117.0	352.7	1 330.1	2 304.2	3 591.4	188.3	1 110.5	518.7	93	89
1966 ASM----	(NA)	(NA)	(NA)	68.8	487.8	54.1	117.1	348.7	1 341.2	2 394.3	3 711.1	190.0	(NA)	466.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	61.5	412.8	48.4	102.8	296.9	989.5	1 961.8	2 919.5	90.2	(NA)	398.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	54.6	347.9	42.7	90.3	248.1	763.6	1 541.9	2 320.9	47.1	747.5	328.1	(NA)	(NA)
1963 Census--	210	299	227	56.4	339.9	43.9	90.4	240.9	677.5	1 452.1	2 117.9	44.5	726.5	339.3	91	86
INDUSTRY 3398, METAL HEAT TREATING[3]																
1977 Census--	682	753	273	16.9	220.1	13.3	27.6	147.9	466.8	281.9	744.9	42.2	(NA)	69.0	(NA)	(NA)
1976 ASM----	(NA)	(NA)	(NA)	14.8	187.0	10.8	25.8	124.0	399.9	192.4	592.5	25.6	278.5	41.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	14.4	185.0	10.4	25.0	121.5	375.4	179.6	556.5	24.3	270.9	57.1	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	15.5	179.0	11.5	27.6	121.3	391.3	150.6	539.2	18.8	230.8	29.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	16.8	171.8	13.2	27.3	116.6	343.2	161.7	504.6	[6]19.5	281.1	27.1	(NA)	(NA)
1972 Census--	886	952	266	17.2	157.3	13.4	27.4	106.6	310.6	159.1	467.4	23.1	298.8	36.2	(NA)	(NA)
INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.[3]																
1977 Census--	407	427	119	9.0	124.4	6.9	13.9	81.2	296.5	454.9	750.6	27.3	(NA)	149.2	94	70
1976 ASM----	(NA)	(NA)	(NA)	9.8	136.5	7.2	13.6	86.4	301.6	348.0	643.0	32.8	280.9	123.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	9.3	114.1	6.7	12.5	68.8	220.4	282.9	510.8	34.5	261.7	119.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	9.9	114.4	7.3	14.2	74.2	247.5	361.1	590.4	35.3	252.7	112.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.9	106.5	7.4	14.9	72.6	222.8	264.9	486.2	[6]30.1	264.2	78.8	(NA)	(NA)
1972 Census--	128	168	105	7.9	75.5	6.0	12.2	50.7	165.0	184.5	348.3	26.9	248.8	64.4	92	74

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3351, COPPER ROLLING AND DRAWING											
1977 Census--	14 571	(NA)	77	2 085	6.71	75	86	(NA)	31 148	46	19.28
1976 ASM----	13 498	36 859	77	2 071	6.12	75	87	33	28 709	47	17.83
1975 ASM----	11 919	38 372	74	1 950	5.76	75	88	42	21 481	55	14.77
1974 ASM----	11 582	30 746	78	2 074	5.31	77	87	25	26 460	43	16.34
1973 ASM----	10 899	28 100	79	2 116	4.91	74	85	28	25 616	42	15.18
1972 Census--	10 150	30 547	79	2 113	4.56	74	87	37	21 171	47	12.66
1971 ASM----	9 119	28 181	78	2 031	4.24	75	87	37	18 528	49	11.64
1970 ASM----	8 605	26 851	77	2 000	4.02	76	87	33	17 705	48	11.35
1969 ASM----	8 604	22 774	79	2 094	3.90	73	85	30	19 422	44	11.68
1968 ASM----	7 924	21 501	79	2 028	3.65	71	83	33	18 834	42	11.68
1967 Census--	7 292	20 024	80	2 003	3.39	69	81	33	17 478	41	10.92
1966 ASM----	7 684	(NA)	81	2 162	3.39	69	80	(NA)	21 953	35	12.47
1965 ASM----	7 222	(NA)	81	2 118	3.22	73	85	(NA)	15 630	46	9.10
1964 ASM----	6 926	16 746	80	2 109	3.12	72	86	34	13 313	52	7.81
1963 Census--	6 691	16 419	80	2 085	3.04	71	87	38	12 298	54	7.28
INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL											
1977 Census--	19 512	(NA)	79	2 026	9.48	82	93	(NA)	41 151	47	25.57
1976 ASM----	17 465	74 534	79	2 000	8.58	79	89	42	38 818	44	24.40
1975 ASM----	15 427	78 149	75	1 873	8.03	79	90	59	34 711	44	24.44
1974 ASM----	14 196	64 924	78	2 030	6.82	71	82	50	42 715	33	26.69
1973 ASM----	12 901	59 710	79	2 116	5.85	71	84	60	27 788	46	16.53
1972 Census--	11 843	62 645	78	2 114	5.43	75	88	73	22 118	53	13.36
INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS											
1977 Census--	13 413	(NA)	79	2 074	5.99	67	84	(NA)	25 573	52	15.41
1976 ASM----	12 053	22 929	78	2 026	5.33	65	84	34	23 497	51	14.70
1975 ASM----	10 899	26 129	76	1 981	4.96	60	79	44	22 331	48	14.65
1974 ASM----	10 241	18 617	80	2 000	4.65	58	75	31	26 072	39	16.19
1973 ASM----	9 340	17 556	80	2 066	4.18	59	80	39	18 093	51	10.94
1972 Census--	8 635	18 166	79	2 054	3.83	61	83	46	15 436	55	9.41
INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.											
1977 Census--	16 592	(NA)	76	1 927	8.13	75	83	(NA)	47 314	35	32.07
1976 ASM----	15 690	50 119	73	1 967	7.75	74	86	38	38 738	40	26.67
1975 ASM----	13 923	49 871	71	1 821	7.09	74	87	45	36 435	38	27.86
1974 ASM----	12 916	36 750	79	1 947	6.16	79	91	32	28 562	45	18.52
1973 ASM----	12 083	35 583	81	2 076	5.24	77	91	39	23 666	51	14.02
1972 Census--	10 434	35 652	78	2 000	4.87	79	93	47	12 456	83	7.95

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.											
1977 Census--	14 992	(NA)	68	2 054	6.37	76	86	(NA)	33 593	44	23.76
1976 ASM----	13 871	44 584	71	1 967	5.97	68	81	39	35 871	38	25.34
1975 ASM----	12 770	39 402	71	1 906	5.70	70	83	38	32 659	39	23.95
1974 ASM----	11 629	31 541	73	2 026	5.03	69	81	32	30 965	37	20.74
1973 ASM----	10 512	29 870	74	2 046	4.44	67	81	38	24 542	42	16.17
1972 Census--	10 176	33 530	70	2 031	4.42	71	86	48	20 668	49	14.50
1971 ASM----	9 137	27 650	66	1 985	4.07	67	85	54	18 049	50	13.67
1970 ASM----	9 078	26 063	69	2 098	3.70	65	83	50	18 009	50	12.32
1969 ASM----	8 608	24 033	73	2 045	3.57	62	79	46	17 495	49	11.70
1968 ASM----	8 043	22 751	68	2 062	3.31	63	80	48	16 866	47	11.86
1967 Census--	7 676	19 446	69	2 087	3.24	64	81	42	16 511	46	11.38
1966 ASM----	7 807	(NA)	70	2 145	3.20	66	81	(NA)	17 845	43	11.73
1965 ASM----	7 393	(NA)	69	2 164	3.03	67	83	(NA)	15 918	46	10.51
1964 ASM----	7 156	17 138	69	2 133	2.97	64	82	42	14 595	49	9.86
1963 Census--	6 752	15 086	70	2 065	2.91	63	81	40	14 402	46	9.86
INDUSTRY 3357, NONFERROUS WIRE DRAWING AND INSULATING											
1977 Census--	13 232	(NA)	75	2 037	5.92	68	81	(NA)	31 959	41	20.80
1976 ASM----	12 294	32 653	75	2 006	5.58	67	81	35	30 282	40	20.04
1975 ASM----	11 537	33 230	73	1 958	5.28	63	77	39	29 347	39	20.32
1974 ASM----	10 794	25 498	75	2 029	4.73	66	78	28	31 415	34	20.42
1973 ASM----	10 086	23 802	76	2 128	4.33	67	81	32	24 238	41	14.82
1972 Census--	9 383	25 347	76	2 086	4.09	67	82	39	21 046	44	13.11
1971 ASM----	8 737	23 335	75	2 060	3.78	66	81	38	19 944	43	12.77
1970 ASM----	8 081	20 111	75	2 102	3.51	66	80	33	20 268	39	12.75
1969 ASM----	7 872	18 179	76	2 125	3.37	68	82	32	17 725	44	10.94
1968 ASM----	7 409	(NA)	75	2 114	3.21	67	81	(NA)	17 274	42	10.78
1967 Census--	6 995	15 488	77	2 115	3.01	64	78	30	18 550	37	11.36
1966 ASM----	7 090	(NA)	78	2 164	2.97	64	77	(NA)	19 494	36	11.45
1965 ASM----	6 712	(NA)	78	2 123	2.88	67	81	(NA)	16 089	41	9.62
1964 ASM----	6 371	13 690	78	2 114	2.74	66	81	32	13 985	45	8.45
1963 Census--	6 026	12 881	77	2 059	2.66	68	84	34	12 012	50	7.49
INDUSTRY 3398, METAL HEAT TREATING											
1977 Census--	12 993	(NA)	78	2 073	5.36	37	67	(NA)	27 555	47	16.94
1976 ASM----	12 635	18 817	72	2 388	4.80	32	64	47	27 020	46	15.50
1975 ASM----	12 847	18 812	72	2 403	4.86	32	65	48	26 069	49	15.01
1974 ASM----	11 548	14 890	74	2 400	4.39	27	61	42	25 245	45	14.17
1973 ASM----	10 226	16 732	78	2 068	4.27	32	66	55	20 428	50	12.57
1972 Census--	9 145	17 372	77	2 044	3.89	34	67	63	18 058	50	11.33
INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.											
1977 Census--	13 791	(NA)	76	2 020	5.84	60	77	(NA)	32 880	41	21.32
1976 ASM----	13 928	28 663	73	1 888	6.35	54	75	43	30 775	45	22.17
1975 ASM----	12 268	28 139	72	1 865	5.50	55	77	51	23 698	51	17.63
1974 ASM----	11 555	25 525	73	1 945	5.22	61	80	42	25 000	46	17.42
1973 ASM----	10 757	26 686	74	2 013	4.87	54	76	54	22 505	47	14.95
1972 Census--	9 556	31 493	75	2 033	4.15	52	74	71	20 886	45	13.52

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3351, COPPER ROLLING AND DRAWING													
United States	-	**140**	**99**	**31.3**	**455.5**	**24.2**	**50.5**	**338.7**	**973.7**	**3 019.9**	**4 013.8**	**64.4**	**37.8**	**800.3**
New England Division:													
Massachusetts	-	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Rhode Island	-	4	3	0.5	5.4	0.4	0.8	4.5	10.4	13.0	23.1	0.2	CC	(D)
Connecticut	-	18	16	4.3	67.9	3.3	7.1	51.2	149.2	329.0	472.0	4.4	7.4	154.8
Middle Atlantic Division:														
New York	-	12	6	2.6	39.8	2.0	4.1	31.2	77.8	240.6	318.6	3.6	3.2	65.9
New Jersey	-	11	8	1.8	25.2	1.4	3.1	18.5	57.9	233.3	290.8	1.2	2.8	53.8
Pennsylvania	-	14	10	3.6	53.1	2.7	5.6	38.0	133.8	213.6	344.3	4.4	4.4	91.2
East North Central Division:														
Ohio	-	9	8	1.9	31.8	1.5	3.0	23.0	40.3	169.1	212.8	2.5	2.1	25.6
Indiana	-	7	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois	-	7	5	3.9	59.0	3.0	5.9	41.8	140.6	299.9	446.4	(D)	4.8	109.5
Michigan	-	13	10	1.8	26.5	1.5	3.1	20.9	48.5	166.9	216.9	1.5	3.3	73.7
Wisconsin	-	3	3	1.7	28.6	1.4	2.9	21.5	59.1	95.6	154.7	2.7	EE	(D)
South Atlantic Division:														
Georgia	-	2	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Alabama	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mississippi	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Arkansas	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Oklahoma	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
California	-	8	4	0.9	14.0	0.7	1.6	10.6	30.1	72.8	102.5	(D)	EE	(D)
Industry 3351-21, Establishments With Casting Departments														
United States	-	**47**	**46**	**22.6**	**347.1**	**17.7**	**36.9**	**263.2**	**720.9**	**1 916.4**	**2 651.7**	**46.6**	**(NA)**	**(NA)**
New England Division:														
Rhode Island	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	8	8	3.4	54.7	2.6	5.6	42.0	104.2	244.4	343.4	3.0	(NA)	(NA)
Middle Atlantic Division:														
New York	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	5	5	2.8	42.3	2.1	4.5	30.7	105.9	146.1	249.2	3.1	(NA)	(NA)
East North Central Division:														
Ohio	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	4	4	3.9	58.4	2.9	5.8	41.3	139.5	296.3	441.7	24.9	(NA)	(NA)
Michigan	-	5	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Wisconsin	-	3	3	1.7	28.6	1.4	2.9	21.5	59.1	95.6	154.7	2.7	(NA)	(NA)
East South Central Division:														
Alabama	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	3	3	0.8	12.7	0.6	1.4	9.6	27.3	68.5	95.8	(D)	(NA)	(NA)
Industry 3351-22, Establishments Without Casting Departments														
United States	-	**93**	**53**	**8.7**	**108.4**	**6.5**	**13.6**	**75.6**	**252.8**	**1 103.5**	**1 362.1**	**17.8**	**(NA)**	**(NA)**
New England Division:														
Massachusetts	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Rhode Island	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	10	8	0.9	13.2	0.7	1.5	9.2	45.0	84.6	128.6	1.4	(NA)	(NA)
Middle Atlantic Division:														
New York	-	10	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey	-	7	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	9	5	0.7	10.7	0.6	1.1	7.3	27.9	67.4	95.2	(D)	(NA)	(NA)
East North Central Division:														
Ohio	E1	6	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	6	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Michigan	E1	8	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Georgia	-	2	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	E1	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL														
United States	-	**53**	**45**	**31.4**	**613.5**	**25.0**	**50.6**	**480.1**	**1 293.8**	**4 900.5**	**5 924.0**	**157.7**	**31.3**	**692.3**
New England Division:														
Connecticut	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Middle Atlantic Division:														
New York	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
New Jersey	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East North Central Division:														
Ohio	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Indiana	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois	-	5	5	3.8	73.6	2.9	6.0	57.3	158.2	510.1	639.5	(D)	FF	(D)
Michigan	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Iowa	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Missouri	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Atlantic Division:														
Virginia	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West Virginia	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
North Carolina	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East South Central Division:														
Kentucky	-	4	4	2.0	36.0	1.6	3.0	28.2	75.1	370.2	442.8	(D)	EE	(D)
Tennessee	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Alabama	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West South Central Division:														
Arkansas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
Washington	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
California	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Industry 3353-11, Establishments With Melting Facilities														
United States	-	**20**	**19**	**22.4**	**444.2**	**18.0**	**36.3**	**351.2**	**866.9**	**3 541.9**	**4 184.6**	**125.0**	**17.6**	**464.1**
Middle Atlantic Division:														
New York	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Indiana	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Iowa	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
West Virginia	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Industry 3353-12, Establishments Without Melting Facilities														
United States	-	**32**	**25**	**8.8**	**166.8**	**6.8**	**14.1**	**127.4**	**421.0**	**1 333.9**	**1 708.8**	**32.5**	**13.7**	**229.6**
New England Division:														
Connecticut	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New Jersey	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	4	4	2.0	36.0	1.6	3.0	28.2	75.1	370.2	442.8	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS														
United States	-	**193**	**146**	**26.5**	**355.9**	**21.2**	**44.0**	**264.1**	**678.6**	**1 386.1**	**2 050.0**	**48.2**	**27.7**	**427.6**
New England Division:														
Massachusetts	-	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Middle Atlantic Division:														
New York	-	12	7	0.9	11.0	0.7	1.5	7.7	27.6	59.4	86.1	0.9	CC	(D)
New Jersey	-	9	8	1.5	17.7	1.3	2.5	12.1	29.9	47.2	76.4	2.7	EE	(D)
Pennsylvania	-	9	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
East North Central Division:														
Ohio	-	16	15	1.5	19.2	1.2	2.4	13.6	42.5	78.8	119.8	3.3	1.7	26.6
Indiana	-	13	11	2.7	44.1	2.2	4.5	34.0	75.5	150.1	202.2	3.0	2.6	41.1
Illinois	-	10	7	0.9	12.9	0.8	1.6	9.4	27.5	64.1	92.1	0.6	1.2	13.6
Michigan	-	16	13	3.3	53.5	2.7	5.7	41.4	74.4	146.5	218.5	7.3	EE	(D)
West North Central Division:														
Minnesota	E1	5	2	0.2	2.0	0.1	0.3	1.5	4.9	10.2	14.9	(D)	(NA)	(NA)
Missouri	-	3	3	0.5	4.5	0.4	0.9	3.6	8.3	33.5	41.4	(D)	BB	(D)
South Atlantic Division:														
Maryland	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Virginia	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
North Carolina	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Carolina	-	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Georgia	-	7	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.2	35.8
Florida	E1	7	3	0.3	2.9	0.2	0.5	2.1	8.0	15.7	23.0	0.3	CC	(D)
East South Central Division:														
Kentucky	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Tennessee	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Mississippi	-	4	3	0.5	5.1	0.4	0.8	3.9	13.2	27.8	40.7	(D)	CC	(D)
West South Central Division:														
Arkansas	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Texas	-	8	5	0.8	9.5	0.6	1.2	6.2	18.9	51.3	69.8	1.5	CC	(D)
Mountain Division:														
Arizona	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pacific Division:														
Washington	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
California	-	27	23	4.2	61.5	3.3	7.0	46.3	132.2	233.6	364.3	10.9	FF	(D)
Industry 3354-11, Establishments With Melting Facilities														
United States	-	**25**	**25**	**8.9**	**136.2**	**7.0**	**14.7**	**102.7**	**245.8**	**469.9**	**710.7**	**15.4**	**10.9**	**167.3**
Middle Atlantic Division:														
Pennsylvania	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Georgia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Arizona	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	6	6	2.8	43.2	2.2	4.8	33.2	90.9	118.9	208.5	(D)	(NA)	(NA)
Industry 3354-12, Establishments Without Melting Facilities														
United States	-	**168**	**121**	**17.6**	**219.7**	**14.2**	**29.3**	**161.4**	**432.8**	**916.2**	**1 339.3**	**32.8**	**16.8**	**260.3**
New England Division:														
Massachusetts	-	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	E1	11	6	0.5	6.3	0.4	0.9	3.9	15.6	32.4	47.8	0.9	(NA)	(NA)
New Jersey	-	8	7	1.5	16.8	1.2	2.5	11.7	28.9	43.2	71.4	2.7	(NA)	(NA)
Pennsylvania	-	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	13	12	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	12	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	10	7	0.9	12.9	0.8	1.6	9.4	27.5	64.1	92.1	0.6	(NA)	(NA)
Michigan	-	15	12	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 3354-12, Establishments Without Melting Facilities—Con.														
West North Central Division:														
Minnesota	E1	5	2	0.2	2.0	0.1	0.3	1.5	4.9	10.2	14.9	(D)	(NA)	(NA)
Missouri	-	3	3	0.5	4.5	0.4	0.9	3.6	8.3	33.5	41.4	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Carolina	-	5	4	0.3	2.7	0.3	0.5	1.8	6.2	11.7	18.6	(D)	(NA)	(NA)
Georgia	-	6	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	4	3	0.5	5.1	0.4	0.8	3.9	13.2	27.8	40.7	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	21	17	1.5	18.3	1.1	2.2	13.1	41.2	114.7	155.9	2.6	(NA)	(NA)
INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.														
United States	-	**22**	**15**	**4.7**	**78.1**	**3.6**	**6.9**	**56.5**	**222.8**	**754.9**	**1 001.0**	**16.1**	**4.6**	**57.3**
Middle Atlantic Division:														
New York	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East North Central Division:														
Ohio	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Atlantic Division:														
Florida	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Alabama	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Industry 3355-11, Establishments With Melting Facilities														
United States	-	**10**	**10**	**3.7**	**53.8**	**2.8**	**5.4**	**45.9**	**184.2**	**620.3**	**830.1**	**14.8**	**3.1**	**28.1**
Middle Atlantic Division:														
New York	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Industry 3355-12, Establishments Without Melting Facilities														
United States	-	**12**	**5**	**1.0**	**14.3**	**0.8**	**1.5**	**10.7**	**38.6**	**134.7**	**170.9**	**1.3**	**1.5**	**29.2**
South Atlantic Division:														
Florida	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Alabama	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.														
United States	-	**174**	**87**	**17.9**	**267.7**	**12.3**	**25.2**	**160.9**	**599.8**	**2 048.3**	**2 676.5**	**36.1**	**18.1**	**374.1**
New England Division:														
Maine	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Massachusetts	-	9	5	1.2	15.7	1.0	2.2	11.3	30.6	239.4	276.3	2.1	1.0	23.0
Rhode Island	E1	8	2	0.2	2.0	0.1	0.2	1.3	4.1	12.6	16.6	0.3	(NA)	(NA)
Connecticut	E5	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Middle Atlantic Division:														
New York	-	29	16	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	17.3
New Jersey	-	17	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.6	35.4
Pennsylvania	-	16	9	1.8	24.7	1.2	2.5	14.6	68.6	145.7	214.2	6.8	1.6	40.5
East North Central Division:														
Ohio	-	10	6	2.3	40.4	1.5	3.2	24.8	78.3	158.8	232.7	4.6	2.6	42.1
Indiana	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Illinois	-	10	8	0.4	5.8	0.3	0.5	2.6	18.4	74.0	91.8	0.7	BB	(D)
Michigan	-	12	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	20.1
South Atlantic Division:														
West Virginia	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
North Carolina	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central Division:														
Kentucky	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Alabama	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Texas	E1	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Mountain Division:														
Nevada	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
Washington	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oregon	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
California	E1	16	5	0.6	8.3	0.4	0.9	5.5	19.7	47.8	71.6	(D)	CC	(D)
INDUSTRY 3357, NONFERROUS WIRE DRAWING AND INSULATING														
United States	-	**421**	**320**	**66.3**	**876.8**	**50.0**	**101.8**	**603.4**	**2 117.6**	**4 493.1**	**6 595.4**	**139.8**	**68.8**	**1 448.0**
New England Division:														
New Hampshire	-	5	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Vermont	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Massachusetts	-	39	29	4.9	56.9	3.9	8.0	40.5	118.1	173.0	297.1	8.8	4.4	77.5
Rhode Island	-	14	11	5.5	63.6	4.2	8.9	42.8	155.0	297.0	448.9	5.5	5.1	102.0
Connecticut	-	34	21	5.0	64.6	3.5	7.0	38.6	108.0	184.9	290.6	8.5	5.0	90.4
Middle Atlantic Division:														
New York	-	35	28	6.2	88.9	4.5	8.9	59.6	159.4	382.8	546.6	9.5	8.7	156.7
New Jersey	-	30	23	4.2	55.9	3.1	6.4	38.7	146.9	264.4	414.0	6.1	5.8	137.0
Pennsylvania	-	21	17	3.5	44.4	2.6	5.0	30.3	90.0	179.7	273.0	4.8	2.7	31.9
East North Central Division:														
Ohio	-	12	6	0.6	7.3	0.5	1.0	5.3	15.8	32.2	47.2	0.5	CC	(D)
Indiana	-	26	23	6.0	79.3	4.6	10.1	59.1	186.1	627.5	809.8	(D)	5.9	151.9
Illinois	-	30	23	4.5	65.5	3.4	7.2	46.2	153.0	452.5	595.6	11.4	5.8	128.0
Michigan	-	16	13	2.5	31.9	2.1	4.2	25.0	88.7	168.0	257.1	3.0	1.5	25.5
Wisconsin	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Missouri	-	8	5	0.7	8.6	0.6	1.1	5.7	30.6	92.5	122.1	1.0	EE	(D)
Nebraska	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Kansas	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Maryland	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Virginia	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
North Carolina	-	13	11	1.5	15.7	1.1	2.2	10.6	58.8	58.6	117.3	3.1	EE	(D)
South Carolina	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	-	9	8	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	4.0	37.3
Florida	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
East South Central Division:														
Kentucky	-	10	10	2.0	20.7	1.5	3.1	15.0	76.9	145.4	217.6	4.8	1.4	33.1
Tennessee	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Mississippi	-	5	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	4.6
West South Central Division:														
Arkansas	-	7	7	1.2	14.6	1.0	2.1	10.9	27.9	90.8	120.0	5.2	BB	(D)
Louisiana	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Texas	-	9	7	1.5	21.3	1.0	2.0	12.6	67.0	120.8	186.7	3.9	1.4	29.6
Mountain Division:														
Arizona	-	9	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Pacific Division:														
California	-	42	25	3.4	41.0	2.4	4.5	23.8	90.1	200.3	289.4	5.3	FF	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 3357-11, With Rod Mill													
United States	-	**40**	**40**	**12.3**	**166.5**	**9.7**	**20.3**	**122.8**	**383.9**	**1 171.0**	**1 542.7**	**24.7**	**12.7**	**283.0**
New England Division:													
Massachusetts	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Rhode Island	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	10	10	3.3	44.4	2.6	5.7	35.3	51.2	386.6	437.9	5.6	(NA)	(NA)
Illinois	-	4	4	1.4	26.0	1.2	2.7	21.7	69.8	248.7	313.6	7.5	(NA)	(NA)
Michigan	-	3	3	0.6	10.0	0.5	1.1	6.7	38.8	69.3	107.8	(D)	(NA)	(NA)
West North Central Division:														
Missouri	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Louisiana	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	3	3	1.0	9.8	0.7	1.2	4.5	22.7	31.2	54.2	0.5	(NA)	(NA)
Industry 3357-12, Without Rod Mill or Insulating														
United States	-	**29**	**27**	**4.1**	**51.7**	**3.2**	**6.6**	**38.7**	**121.9**	**271.4**	**391.4**	**9.4**	**2.5**	**41.8**
New England Division:														
Massachusetts	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	4	4	0.6	6.1	0.5	1.2	4.5	10.2	25.8	35.3	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	6	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Michigan	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Wisconsin	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Alabama	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Industry 3357-13, Without Rod Mill but With Insulation														
United States	-	**113**	**110**	**30.8**	**443.6**	**22.9**	**46.6**	**305.8**	**1 106.9**	**2 260.2**	**3 349.9**	**76.0**	**30.4**	**673.7**
New England Division:														
New Hampshire	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	-	6	5	1.5	17.7	1.2	2.4	13.0	41.2	54.3	94.6	1.3	(NA)	(NA)
Rhode Island	-	5	5	2.5	33.2	1.9	4.3	21.5	60.4	159.7	218.9	2.2	(NA)	(NA)
Connecticut	-	7	6	2.4	32.2	1.7	3.3	19.9	46.6	96.0	139.4	4.3	(NA)	(NA)
Middle Atlantic Division:														
New York	-	9	9	3.6	57.3	2.5	4.9	38.1	101.1	225.1	330.6	2.6	(NA)	(NA)
New Jersey	-	9	9	1.7	24.6	1.2	2.7	16.7	52.5	82.0	137.3	4.2	(NA)	(NA)
Pennsylvania	-	5	5	0.7	8.9	0.5	1.1	6.2	11.6	52.6	70.7	1.8	(NA)	(NA)
East North Central Division:														
Indiana	-	6	6	1.7	21.2	1.4	3.0	16.7	74.4	119.0	190.7	3.0	(NA)	(NA)
Illinois	-	9	9	1.7	20.3	1.2	2.6	14.2	49.4	147.2	192.6	2.5	(NA)	(NA)
Michigan	-	6	5	1.4	16.5	1.2	2.3	13.7	35.9	74.6	111.2	2.1	(NA)	(NA)
West North Central Division:														
Missouri	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Nebraska	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	5	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Carolina	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	5	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	8	8	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Arizona	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	9	9	1.2	16.4	0.9	1.7	11.0	39.4	124.0	160.6	4.0	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
Industry 3357-14, Without Wire Drawing													
United States	-	**235**	**139**	**18.6**	**209.7**	**13.8**	**27.6**	**133.0**	**495.3**	**777.1**	**1 288.5**	**28.8**	**23.2**	**448.7**
New England Division:													
New Hampshire	-	4	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Vermont	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	-	29	20	2.7	29.8	2.1	4.3	20.4	52.4	91.0	151.2	5.9	(NA)	(NA)
Rhode Island	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	23	11	2.0	26.3	1.3	2.6	14.2	51.1	63.1	115.9	3.3	(NA)	(NA)
Middle Atlantic Division:														
New York	E2	19	12	1.1	13.3	0.7	1.5	7.5	27.7	60.1	87.6	2.1	(NA)	(NA)
New Jersey	-	16	9	1.4	13.8	1.0	2.0	9.2	55.0	91.6	149.3	1.1	(NA)	(NA)
Pennsylvania	-	11	7	1.5	17.0	1.1	2.3	11.2	33.0	44.1	75.7	0.9	(NA)	(NA)
East North Central Division:														
Ohio	-	10	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	8	5	0.9	12.1	0.6	1.3	6.6	57.2	113.7	169.7	(D)	(NA)	(NA)
Illinois	-	16	9	1.4	18.5	0.9	1.8	9.8	30.0	35.8	63.3	1.3	(NA)	(NA)
South Atlantic Division:														
Delaware	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	7	5	0.8	7.0	0.7	1.3	5.5	14.8	22.0	37.4	1.3	(NA)	(NA)
South Carolina	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Louisiana	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Arizona	-	7	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	30	13	1.2	14.8	0.8	1.6	8.3	28.1	45.1	74.7	0.8	(NA)	(NA)
INDUSTRY 3398, METAL HEAT TREATING														
United States	-	**753**	**273**	**16.9**	**220.1**	**13.3**	**27.6**	**147.9**	**466.8**	**281.9**	**744.9**	**42.2**	**17.2**	**310.6**
New England Division:														
Massachusetts	-	23	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Rhode Island	E1	17	4	0.2	2.3	0.2	0.3	1.5	3.8	3.7	7.6	0.3	AA	(D)
Connecticut	E2	32	10	0.5	6.4	0.4	0.9	4.3	14.5	7.3	21.7	0.9	CC	(D)
Middle Atlantic Division:														
New York	-	46	10	1.2	17.5	1.0	2.3	12.9	43.4	11.8	55.0	1.4	EE	(D)
New Jersey	E1	32	12	0.6	8.2	0.5	1.0	5.6	14.4	5.7	20.1	0.9	0.9	14.4
Pennsylvania	E1	36	13	0.8	10.4	0.6	1.2	6.7	20.5	8.0	28.5	(D)	0.7	11.0
East North Central Division:														
Ohio	-	93	37	2.2	27.6	1.8	3.5	18.3	57.5	115.6	173.4	8.1	2.0	32.2
Indiana	-	32	12	0.7	9.6	0.5	1.1	5.7	26.7	23.0	47.8	2.4	CC	(D)
Illinois	E1	56	29	1.8	22.4	1.4	2.8	15.2	48.9	17.3	65.9	4.8	2.1	36.9
Michigan	-	125	57	3.2	46.6	2.6	5.5	31.5	90.3	32.5	122.0	6.2	3.3	68.1
Wisconsin	E2	21	7	0.4	6.0	0.3	0.6	3.6	14.6	4.2	18.5	1.3	CC	(D)
West North Central Division:														
Minnesota	-	16	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	7.2
Missouri	E1	9	3	0.3	2.8	0.2	0.4	2.3	6.8	2.5	9.4	0.4	AA	(D)
West South Central Division:														
Texas	-	29	14	0.8	10.4	0.5	1.2	6.4	21.6	9.0	30.2	5.3	CC	(D)
Pacific Division:														
California	-	102	30	2.1	24.7	1.6	3.3	16.8	51.3	19.2	70.4	3.7	1.9	35.5
INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.														
United States	**E1**	**427**	**119**	**9.0**	**124.4**	**6.9**	**13.9**	**81.2**	**296.5**	**454.9**	**750.6**	**27.3**	**7.9**	**165.0**
New England Division:														
Massachusetts	-	15	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Connecticut	E1	16	7	0.5	6.7	0.4	0.8	4.7	16.9	18.7	35.1	2.4	0.2	7.3
Middle Atlantic Division:														
New York	E4	27	10	0.6	8.0	0.5	1.0	5.1	17.6	17.4	34.3	1.0	0.3	5.9
New Jersey	-	31	13	1.3	19.3	0.9	1.8	11.4	58.2	87.0	143.7	3.2	1.0	24.3
Pennsylvania	-	41	14	1.0	14.5	0.8	1.8	9.5	37.6	48.7	85.7	2.0	1.1	21.9
East North Central Division:														
Ohio	E1	27	8	0.5	6.9	0.4	0.8	4.2	16.3	18.0	33.6	0.8	0.8	13.9
Indiana	-	15	4	0.3	4.5	0.2	0.4	2.5	14.7	42.2	57.0	(D)	CC	(D)
Illinois	E1	28	6	0.3	3.8	0.2	0.4	2.6	8.7	15.6	23.1	4.9	0.3	6.5
Michigan	E2	36	13	0.7	9.3	0.6	1.1	6.3	19.2	26.1	45.9	1.9	CC	(D)
Wisconsin	E1	9	3	0.2	4.0	0.2	0.4	2.5	9.4	7.9	17.3	0.7	AA	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.—Con.														
South Atlantic Division:														
Florida	-	9	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Tennessee	-	10	3	0.3	4.4	0.2	0.5	2.9	10.1	15.4	25.3	0.5	0.2	6.0
Alabama	E1	11	1	0.4	5.3	0.3	0.7	4.0	7.6	39.7	51.4	0.4	(NA)	(NA)
West South Central Division:														
Texas	E2	20	2	0.2	2.1	0.1	0.2	1.5	3.4	7.3	10.5	0.2	AA	(D)
Pacific Division:														
California	E2	36	8	0.6	6.9	0.4	0.9	4.6	14.2	17.2	31.5	0.7	BB	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Copper rolling and drawing (SIC 3351)			Aluminum sheet, plate, and foil (SIC 3353)			Aluminum extruded products (SIC 3354)		
		Total	Establishments with casting departments (SIC 3351-21)	Establishments without casting departments (SIC 3351-22)	Total	Establishments with melting facilities (SIC 3353-11)	Establishments without melting facilities (SIC 3353-12)	Total	Establishments with melting facilities (SIC 3354-11)	Establishments without melting facilities (SIC 3354-12)
Primary product specialization ratio[1]	percent	85	(NA)	(NA)	92	(NA)	(NA)	88	(NA)	(NA)
Coverage ratio[2]	do	92	(NA)	(NA)	99	(NA)	(NA)	92	(NA)	(NA)
All establishments	number	140	47	93	53	20	32	193	25	168
With 1 to 19 employees	do	41	1	40	8	1	7	47	-	47
With 20 to 99 employees	do	35	5	30	9	2	7	76	8	68
With 100 employees or more	do	64	41	23	36	17	18	70	17	53
All employees, average for year	1,000	31.3	22.6	8.7	31.4	22.4	8.8	26.5	8.9	17.6
Payroll for year, all employees	mil. dol.	455.5	347.1	108.4	613.5	444.2	166.8	355.9	136.2	219.7
Production workers:										
Average for year	1,000	24.2	17.7	6.5	25.0	18.0	6.8	21.2	7.0	14.2
March	do	24.7	18.2	6.5	24.3	17.4	6.7	20.0	6.9	13.1
May	do	25.3	18.8	6.5	24.9	18.0	6.8	21.4	7.1	14.2
August	do	24.9	18.4	6.5	25.3	18.3	6.9	21.6	6.9	14.7
November	do	22.0	15.5	6.5	25.4	18.3	6.9	21.9	7.2	14.7
Hours	millions	50.5	36.9	13.6	50.6	36.3	14.1	44.0	14.7	29.3
January to March	do	12.7	9.5	3.2	12.2	8.6	3.5	10.0	3.4	6.5
April to June	do	13.5	10.0	3.5	12.8	9.2	3.6	11.3	3.8	7.5
July to September	do	12.8	9.5	3.3	12.6	9.1	3.4	11.4	3.8	7.6
October to December	do	11.5	7.9	3.6	13.0	9.3	3.6	11.4	3.7	7.7
Wages	mil. dol.	338.7	263.2	75.6	480.1	351.2	127.4	264.1	102.7	161.4
Cost of materials, etc.	do	3 019.9	1 916.4	1 103.5	4 900.5	3 541.9	1 333.9	1 386.1	469.9	916.2
Materials, parts, containers, etc., consumed	do	2 822.5	1 819.7	1 002.8	4 696.2	3 399.0	1 273.3	1 286.4	436.9	849.5
Resales	do	83.9	8.7	75.2	16.9	4.1	12.4	16.5	(Z)	16.5
Fuels consumed	do	37.1	28.8	8.3	105.1	77.4	27.4	30.7	13.5	17.2
Purchased electric energy	do	58.4	47.5	10.9	66.2	46.9	19.1	32.7	14.1	18.5
Contract work	do	18.0	11.7	6.3	16.1	14.5	1.6	19.8	5.3	14.6
Value of shipments, including resales	do	4 013.8	2 651.7	1 362.1	5 924.0	4 184.6	1 708.8	2 050.0	710.7	1 339.3
Value of resales	do	13.7	9.5	4.2	20.2	4.6	15.2	21.6	0.1	21.6
Value added by manufacture	do	973.7	720.9	252.8	1 293.8	866.9	421.0	678.6	245.8	432.8
Manufacturers' inventories:										
Beginning of year	do	496.1	362.5	133.5	1 325.2	1 003.6	319.7	312.8	160.4	152.3
Finished products	do	112.5	77.1	35.4	251.7	171.9	79.0	49.2	23.2	26.0
Work in process	do	201.3	173.9	27.3	812.0	651.1	159.9	114.2	74.3	39.9
Materials, supplies, fuel, etc.	do	182.4	111.5	70.8	261.4	180.6	80.8	149.4	63.0	86.4
End of year	do	472.1	344.8	127.3	1 625.2	1 239.3	384.0	337.2	173.5	163.7
Finished products	do	90.1	63.5	26.6	282.3	198.6	82.9	59.8	23.3	36.5
Work in process	do	203.5	173.1	30.4	1 051.8	848.6	202.2	118.3	79.1	39.2
Materials, supplies, fuel, etc.	do	178.5	108.2	70.3	291.1	192.1	99.0	159.1	71.1	88.0
Capital expenditures for plant and equipment	do	72.4	49.8	22.6	158.8	125.2	32.9	50.6	16.5	34.0
New capital expenditures	do	64.4	46.6	17.8	157.7	125.0	32.5	48.2	15.4	32.8
New buildings and other structures	do	7.3	2.3	5.0	19.0	16.7	2.3	8.6	1.7	6.9
New machinery and equipment	do	57.1	44.3	12.8	138.7	108.3	30.2	39.6	13.7	25.9
Used capital expenditures	do	8.0	3.2	4.7	1.1	0.2	0.4	2.4	1.1	1.2

See footnotes at end of table.

Table 3a. **Summary Statistics for the Industry: 1977**—Con.

[For explanation of terms, see appendix A]

Item	Unit of measure	Aluminum rolling and drawing, n.e.c. (SIC 3355)			Nonferrous rolling and drawing, n.e.c. (SIC 3356)	Nonferrous wire-drawing and/or insulating, n.e.c. (SIC 3357)				
		Total	Establishments with melting facilities (SIC 3355-11)	Establishments without melting facilities (SIC 3355-12)		Total	Establishments with rod mill (SIC 3357-11)	Establishments without rod or mill insulating (SIC 3357-12)	Establishments without rod mill but with insulation (SIC 3357-13)	Establishments without wire-drawing (SIC 3357-14)
Primary product specialization ratio[1]	percent	91	(NA)	(NA)	94	94	(NA)	(NA)	(NA)	(NA)
Coverage ratio[2]	do	65	(NA)	(NA)	93	93	(NA)	(NA)	(NA)	(NA)
All establishments	number	22	10	12	174	421	40	29	113	235
With 1 to 19 employees	do	7	–	7	87	101	–	2	3	96
With 20 to 99 employees	do	4	3	1	50	125	5	11	26	80
With 100 employees or more	do	11	7	4	37	195	35	16	84	59
All employees, average for year	1,000	4.7	3.7	1.0	17.9	66.3	12.3	4.1	30.8	18.6
Payroll for year, all employees	mil. dol.	78.1	63.8	14.3	267.7	876.8	166.5	51.7	443.6	209.7
Production workers:										
Average for year	1,000	3.6	2.8	0.8	12.3	50.0	9.7	3.2	22.9	13.8
March	do	3.6	2.8	0.7	12.1	49.4	9.7	3.1	22.8	13.5
May	do	3.7	2.9	0.8	12.3	50.3	9.9	3.1	23.0	13.9
August	do	3.6	2.8	0.8	12.3	50.2	9.9	3.3	22.8	13.9
November	do	3.5	2.7	0.8	12.4	50.0	9.4	3.5	23.0	13.8
Hours	millions	6.9	5.4	1.5	25.2	101.8	20.3	6.6	46.6	27.6
January to March	do	1.7	1.4	0.3	6.3	24.9	4.9	1.6	11.5	6.8
April to June	do	1.8	1.4	0.4	6.4	26.6	5.3	1.7	12.3	7.1
July to September	do	1.7	1.3	0.4	6.0	24.4	4.9	1.6	11.1	6.7
October to December	do	1.7	1.3	0.4	6.5	25.9	5.2	1.8	11.8	7.0
Wages	mil. dol.	56.5	45.9	10.7	160.9	603.4	122.8	38.7	305.8	133.0
Cost of materials, etc.	do	754.9	620.3	134.7	2 048.3	4 493.1	1 171.0	271.4	2 260.2	777.1
Materials, parts, containers, etc., consumed	do	716.7	586.8	129.9	1 959.3	4 264.9	1 127.4	260.0	2 161.7	703.9
Resales	do	(D)	(D)	(D)	(D)	98.2	13.1	2.8	28.4	53.0
Fuels consumed	do	13.1	12.0	1.1	17.8	35.9	11.1	1.5	17.7	5.4
Purchased electric energy	do	4.9	3.7	1.2	23.3	77.3	17.6	5.0	41.7	12.8
Contract work	do	(D)	(D)	(D)	(D)	16.8	1.9	2.0	10.8	2.0
Value of shipments, including resales	do	1 001.0	830.1	170.9	2 676.5	6 595.4	1 542.7	391.4	3 349.9	1 288.5
Value of resales	do	(D)	(D)	(D)	(D)	106.0	14.0	2.9	30.1	57.7
Value added by manufacture	do	222.8	184.2	38.6	599.8	2 117.6	383.9	121.9	1 106.9	495.3
Manufacturers' inventories:										
Beginning of year	do	183.6	164.9	18.7	492.7	948.0	193.6	47.8	470.0	234.8
Finished products	do	21.5	15.6	5.9	141.3	308.5	65.2	10.8	141.3	90.4
Work in process	do	132.4	124.0	8.4	219.3	326.0	74.1	18.5	165.4	67.4
Materials, supplies, fuel, etc.	do	29.7	25.3	4.5	132.1	313.5	54.4	18.5	163.3	77.0
End of year	do	169.5	145.5	24.1	486.0	960.7	205.7	52.8	489.5	210.8
Finished products	do	25.8	19.0	6.8	125.7	300.4	69.9	10.6	140.0	79.2
Work in process	do	104.9	94.9	9.9	206.5	349.3	81.6	20.7	183.9	62.6
Materials, supplies, fuel, etc.	do	38.9	31.5	7.4	153.8	311.0	54.2	21.5	165.6	69.0
Capital expenditures for plant and equipment	do	16.6	15.2	1.3	37.6	167.7	27.6	10.1	98.8	30.2
New capital expenditures	do	16.1	14.8	1.3	36.1	139.8	24.7	9.4	76.0	28.8
New buildings and other structures	do	2.2	2.1	0.2	6.0	19.6	2.3	1.4	9.5	6.3
New machinery and equipment	do	13.9	12.7	1.2	30.1	120.2	22.5	7.9	66.4	22.5
Used capital expenditures	do	0.5	0.4	(Z)	1.5	27.9	2.9	0.7	22.9	1.4

See footnotes at end of table.

Table 3a. Summary Statistics for the Industry: 1977—Con.

[For explanation of terms, see appendix A]

Item	Unit of measure	Metal heat treating (SIC 3398)	Primary metal products, n.e.c. (SIC 3399)
Primary product specialization ratio[1]	percent	(NA)	94
Coverage ratio[2]	do	(NA)	70
All establishments	number	753	427
With 1 to 19 employees	do	480	308
With 20 to 99 employees	do	258	104
With 100 employees or more	do	15	15
All employees, average for year	1,000	16.9	9.0
Payroll for year, all employees	mil. dol.	220.1	124.4
Production workers:			
Average for year	1,000	13.3	6.9
March	do	13.0	6.7
May	do	13.0	6.9
August	do	13.4	7.1
November	do	13.7	6.7
Hours	millions	27.6	13.9
January to March	do	6.7	3.5
April to June	do	6.8	3.6
July to September	do	6.9	3.5
October to December	do	7.2	3.4
Wages	mil. dol.	147.9	81.2
Cost of materials, etc.	do	281.9	454.9
Materials, parts, containers, etc., consumed	do	161.2	399.6
Resales	do	52.4	13.7
Fuels consumed	do	34.7	12.9
Purchased electric energy	do	24.5	16.1
Contract work	do	9.1	12.6
Value of shipments, including resales	do	744.9	750.6
Value of resales	do	54.7	20.2
Value added by manufacture	do	466.8	296.5
Manufacturers' inventories:			
Beginning of year	do	48.5	135.9
Finished products	do	8.4	36.8
Work in process	do	4.9	48.4
Materials, supplies, fuel, etc.	do	35.2	50.7
End of year	do	69.0	149.2
Finished products	do	11.2	38.6
Work in process	do	5.9	47.5
Materials, supplies, fuel, etc.	do	52.0	63.1
Capital expenditures for plant and equipment	do	47.5	31.4
New capital expenditures	do	42.2	27.3
New buildings and other structures	do	9.2	3.3
New machinery and equipment	do	33.0	24.0
Used capital expenditures	do	5.3	4.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Copper rolling and drawing (SIC 3351)		Aluminum sheet, plate, and foil (SIC 3353)		Aluminum extruded products (SIC 3354)		Aluminum rolling, and drawing, n.e.c. (SIC 3355)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	2.4	2	7.6	4	2.2	12	0.2	4
Response coverage ratio[2] (percent)	46	(X)	37	(X)	69	(X)	66	(X)
Machinery	23.0	3	39.7	11	(16.7)	17	2.8	8
Response coverage ratio[2] (percent)	52	(X)	30	(X)	60	(X)	44	(X)
Cost of purchased communication services	4.3	6	3.1	9	3.2	5	0.4	4
Response coverage ratio[2] (percent)	51	(X)	34	(X)	67	(X)	48	(X)
Rental payments	7.3	3	8.4	2	11.6	4	1.9	3
Buildings and other structures	1.2	8	1.7	5	3.9	9	0.9	2
Machinery and equipment	6.1	2	6.8	1	7.6	4	1.0	4
Supplemental labor costs	127.8	1	161.3	1	82.4	1	21.7	1
Legal costs	45.3	1	44.6	1	34.4	2	6.0	1
Voluntary costs	82.5	1	116.7	1	48.0	2	15.7	1
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	273.8	2	462.5	1	144.0	3	54.6	1
New capital expenditures	7.9	10	19.6	5	8.9	12	2.2	4
Used capital expenditures	0.1	1	0.5	1	(0.1)	53	-	(X)
Retirements	4.0	3	(0.4)	21	(0.6)	21	0.4	5
End of year	277.9	2	482.1	1	152.4	3	56.4	1
Machinery and equipment:								
Beginning of year	836.2	1	1,781.2	1	422.5	2	169.3	1
New capital expenditures	59.2	4	140.7	2	39.2	8	13.8	2
Automobiles, trucks, etc., for highway use[3]	(0.9)	(A)	(1.2)	(A)	(1.9)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(0.9)	(A)	(1.4)	(A)	(0.5)	(A)	(D)	(A)
All other[3]	(54.5)	37	(137.6)	15	(27.1)	74	(11.2)	(A)
New machinery and equipment, n.s.k.[4]	(2.9)	(A)	(0.5)	(A)	(9.8)	(A)	(2.0)	(A)
Used capital expenditures	7.8	1	0.6	1	(3.9)	45	0.5	2
Retirements	38.0	1	28.3	2	13.6	3	5.9	1
End of year	865.3	1	1,894.1	1	452.0	2	177.7	1
Total gross value of depreciable assets:								
Beginning of year	1,110.0	1	2,243.7	1	566.5	2	223.9	1
New capital expenditures	67.1	5	160.3	2	48.1	9	16.0	2
Used capital expenditures	8.0	1	1.1	1	(3.9)	45	0.5	2
Retirements	41.9	1	28.8	2	14.2	4	6.3	1
End of year	1,143.2	1	2,376.2	1	604.4	2	234.1	1
Depreciation charges during 1977	49.4	1	97.0	1	31.5	2	14.5	2
Buildings and other structures	7.9	2	13.8	1	5.8	7	1.8	3
Machinery and equipment	41.5	1	83.2	1	25.7	2	12.7	2

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Nonferrous rolling and drawing, n.e.c. (SIC 3356)		Nonferrous wire drawing, and insulating (SIC 3357)		Metal head treating (SIC 3398)		Primary metal products, n.e.c. (SIC 3399)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	5.2	10	8.1	8	(1.7)	32	1.9	5
Response coverage ratio[2] (percent)	69	(X)	54	(X)	46	(X)	65	(X)
Machinery	21.3	4	34.1	9	(7.6)	24	(15.6)	(A)
Response coverage ratio[2] (percent)	68	(X)	50	(X)	43	(X)	60	(X)
Cost of purchased communication services	(4.4)	84	(12.6)	23	(1.7)	(A)	(1.0)	48
Response coverage ratio[2] (percent)	67	(X)	61	(X)	41	(X)	58	(X)
Rental payments	6.1	8	23.3	4	(18.9)	17	3.7	11
Buildings and other structures	(2.1)	18	9.1	5	9.2	12	(1.6)	21
Machinery and equipment	4.0	7	14.1	5	(9.7)	36	2.1	9
Supplemental labor costs	63.5	1	205.8	1	35.3	5	22.7	4
Legal costs	20.7	2	76.8	1	17.4	4	10.1	3
Voluntary costs	42.8	1	129.0	1	17.9	8	12.6	5
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	183.8	4	555.5	2	73.6	10	59.6	5
New capital expenditures	5.0	4	22.1	12	(11.2)	50	(1.8)	29
Used capital expenditures	-	(X)	(0.4)	32	0.6	3	1.1	2
Retirements	3.0	4	20.6	2	(1.4)	53	2.1	14
End of year	185.8	4	557.4	2	84.0	10	60.5	5
Machinery and equipment:								
Beginning of year	545.2	2	1,516.2	1	236.6	7	193.2	8
New capital expenditures	28.0	6	133.1	7	(32.0)	24	101.9	2
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(1.6)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(1.5)	(A)	(Z)	(A)	(Z)	(A)
All other[3]	24.4	77	(111.7)	18	(14.4)	(A)	(97.8)	20
New machinery and equipment, n.s.k.[4]	(2.1)	(A)	(18.3)	(A)	(D)	(A)	(D)	(A)
Used capital expenditures	0.5	6	28.5	5	(4.8)	32	2.0	4
Retirements	9.0	2	85.7	1	(11.1)	27	10.7	4
End of year	564.5	2	1,592.1	1	262.3	6	286.5	3
Total gross value of depreciable assets:								
Beginning of year	729.0	2	2,071.7	1	310.1	6	252.8	7
New capital expenditures	32.7	5	155.2	8	(43.2)	28	103.7	3
Used capital expenditures	0.5	6	29.0	5	(5.4)	29	3.1	3
Retirements	12.0	2	106.4	1	(12.5)	28	12.7	4
End of year	750.4	2	2,149.5	1	346.2	6	347.0	3
Depreciation charges during 1977	38.0	2	114.6	1	28.0	5	(26.2)	35
Buildings and other structures	6.4	3	19.1	1	3.4	10	2.5	6
Machinery and equipment	31.6	2	95.5	1	24.6	5	(23.7)	38

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3351, COPPER ROLLING AND DRAWING												
Total	-	140	31.3	455.5	24.2	50.5	338.7	973.7	3 019.9	4 013.8	64.4	472.1
Establishments with an average of—												
1 to 4 employees	E8	19	(Z)	0.5	(Z)	0.1	0.4	0.8	3.0	3.9	(7.6)	0.8
5 to 9 employees	E6	10	0.1	1.1	0.1	0.1	0.8	2.6	5.4	8.0	(D)	1.0
10 to 19 employees	E7	12	0.2	2.1	0.1	0.3	1.6	4.4	12.9	17.3	0.2	1.9
20 to 49 employees	-	20	0.6	9.2	0.5	1.0	5.8	38.3	150.9	188.1	1.4	9.8
50 to 99 employees	-	15	1.1	13.0	0.9	1.7	9.8	28.9	140.1	168.7	0.7	19.3
100 to 249 employees	-	28	4.5	60.4	3.6	7.3	44.8	174.2	484.1	651.0	4.9	59.6
250 to 499 employees	-	17	6.0	86.4	4.6	9.3	63.0	179.0	399.5	583.6	9.0	84.7
500 to 999 employees	-	13	8.6	136.4	6.8	14.7	104.8	266.6	827.8	1 104.9	(40.5)	163.5
1,000 to 2,499 employees	-	4	(10.2)	(146.5)	(7.7)	(16.1)	(107.9)	(279.0)	(996.2)	(1 288.3)	(D)	(131.6)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	27	0.2	2.6	0.2	0.3	2.0	5.1	15.8	20.9	0.3	2.6
Industry 3351-21, Establishments With Casting Departments												
Total	-	47	22.6	347.1	17.7	36.9	263.2	720.9	1 916.4	2 651.7	46.6	344.8
Establishments with an average of—												
5 to 9 employees	-	1	(0.2)	(2.7)	(0.2)	(0.3)	(1.8)	(9.0)	(22.1)	(29.0)	(0.1)	(5.2)
20 to 49 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	10	1.7	25.2	1.3	2.6	19.1	67.7	261.4	325.5	(46.5)	26.0
250 to 499 employees	-	14	(13.1)	(203.6)	(10.2)	(21.8)	(154.1)	(410.8)	(1 171.4)	(1 597.1)	(D)	(236.9)
500 to 999 employees	-	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	4	(7.6)	(115.6)	(6.0)	(12.2)	(88.2)	(233.3)	(461.5)	(700.1)	(D)	(76.7)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Industry 3351-22, Establishments Without Casting Departments												
Total	-	93	8.7	108.4	6.5	13.6	75.6	252.8	1 103.5	1 362.1	17.8	127.3
Establishments with an average of—												
1 to 4 employees	E7	19	(0.1)	(1.4)	(0.1)	(0.2)	(1.1)	(3.2)	(8.2)	(11.5)	(7.6)	(1.6)
5 to 9 employees	E6	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	E7	12	0.2	2.1	0.1	0.3	1.6	4.4	12.9	17.3	(2.2)	1.9
20 to 49 employees	-	16	(1.5)	(19.6)	(1.2)	(2.4)	(13.9)	(58.4)	(269.1)	(328.2)	(D)	(24.0)
50 to 99 employees	-	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	18	2.8	35.2	2.2	4.6	25.7	106.5	222.7	325.5	(7.9)	33.6
250 to 499 employees	-	3	(4.1)	(50.1)	(2.9)	(6.1)	(33.4)	(80.3)	(590.6)	(679.5)	(D)	(66.2)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	27	0.2	2.6	0.2	0.3	2.0	5.1	15.8	20.9	0.3	2.6
INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL												
Total	-	53	31.4	613.5	25.0	50.6	480.1	1 293.8	4 900.5	5 924.0	157.7	1 625.2
Establishments with an average of—												
1 to 4 employees	E0	5	(Z)	0.3	(Z)	(Z)	0.2	0.6	2.1	2.7	(1.4)	0.7
5 to 9 employees	E2	1	(Z)	(0.5)	(Z)	(0.1)	(0.3)	(1.8)	(2.8)	(4.5)	(D)	(1.7)
10 to 19 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	3	0.1	0.8	0.1	0.1	0.6	2.2	10.8	13.4	(D)	3.5
50 to 99 employees	-	6	0.4	5.8	0.3	0.7	4.2	12.5	55.2	67.3	1.5	10.5
100 to 249 employees	-	9	1.6	23.7	1.2	2.4	16.6	67.1	170.2	233.7	4.9	40.0
250 to 499 employees	-	9	2.8	50.6	2.1	4.7	35.7	123.9	405.5	512.5	15.4	122.2
500 to 999 employees	-	10	6.8	119.0	5.4	10.6	91.1	179.3	1 331.3	1 494.8	19.2	294.9
1,000 to 2,499 employees	-	4	7.7	168.8	6.1	13.0	135.4	417.7	1 295.9	1 651.7	58.3	475.5
2,500 employees or more	-	4	11.9	244.1	9.8	19.0	196.0	488.7	1 626.7	1 943.4	56.9	676.2
Covered by administrative records[2]	E0	6	(Z)	0.4	(Z)	(Z)	0.3	0.8	2.9	3.7	0.1	0.9
Industry 3353-11, Establishments With Melting Facilities												
Total	-	20	22.4	444.2	18.0	36.3	351.2	866.9	3 541.9	4 184.6	125.0	1 239.3
Establishments with an average of—												
10 to 19 employees	-	1	(0.2)	(2.4)	(0.1)	(0.3)	(1.9)	(5.3)	(24.4)	(29.6)	(5.1)	(3.8)
50 to 99 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	2	(1.1)	(18.9)	(0.8)	(2.0)	(13.9)	(44.3)	(116.6)	(156.1)	(D)	(34.6)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	7	(9.2)	(178.8)	(7.3)	(15.0)	(139.4)	(328.6)	(1 774.3)	(2 055.5)	(63.1)	(524.6)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	4	11.9	244.1	9.8	19.0	196.0	488.7	1 626.7	1 943.4	56.9	676.2
Industry 3353-12, Establishments Without Melting Facilities												
Total	-	32	8.8	166.8	6.8	14.1	127.4	421.0	1 333.9	1 708.8	32.5	384.0
Establishments with an average of—												
1 to 4 employees	E0	5	(Z)	0.3	(Z)	(Z)	0.2	0.6	2.1	2.7	(18.0)	0.7
5 to 9 employees	E7	1	(Z)	(0.2)	(Z)	(Z)	(0.1)	(0.5)	(0.9)	(1.4)	(D)	(0.9)
10 to 19 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	3	0.1	0.8	0.1	0.1	0.6	2.2	10.8	13.4	(D)	3.5
50 to 99 employees	-	4	(3.4)	(56.5)	(2.5)	(5.3)	(39.3)	(149.3)	(467.2)	(600.3)	(D)	(133.2)
100 to 249 employees	-	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	3	(5.3)	(109.0)	(4.2)	(8.6)	(87.2)	(268.5)	(852.9)	(1 091.0)	(14.5)	(245.8)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	6	(Z)	0.4	(Z)	(Z)	0.3	0.8	2.9	3.7	0.1	0.9

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS												
Total	-	**193**	**26.5**	**355.9**	**21.2**	**44.0**	**264.1**	**678.6**	**1 386.1**	**2 050.0**	**48.2**	**337.2**
Establishments with an average of—												
1 to 4 employees	E7	23	(Z)	0.5	(Z)	0.1	0.4	(S)	1.6	2.5	(Z)	0.5
5 to 9 employees	E8	13	0.1	1.0	0.1	0.1	0.7	1.4	2.6	4.1	0.1	0.9
10 to 19 employees	E9	11	0.2	2.0	0.1	0.3	1.4	3.7	7.1	10.8	0.2	2.0
20 to 49 employees	-	32	1.1	12.7	0.9	1.8	8.3	28.6	73.7	101.3	3.3	12.4
50 to 99 employees	-	44	3.1	33.1	2.5	4.8	22.4	76.0	178.8	252.8	5.4	35.1
100 to 249 employees	-	45	7.8	93.9	6.2	12.9	68.6	201.2	438.9	637.2	12.1	75.8
250 to 499 employees	-	15	5.3	70.7	4.2	8.7	52.0	138.8	299.8	457.5	8.9	57.3
500 to 999 employees	-	7	4.8	76.7	3.9	8.2	59.4	119.8	209.9	323.3	10.8	63.8
1,000 to 2,499 employees	-	3	4.1	65.4	3.3	7.2	50.9	109.6	173.6	260.6	7.3	89.6
Covered by administrative records[2]	E0	34	0.3	3.5	0.2	0.4	2.5	5.8	11.5	17.3	0.4	3.3
Industry 3354-11, Establishments With Melting Facilities												
Total	-	**25**	**8.9**	**136.2**	**7.0**	**14.7**	**102.7**	**245.8**	**469.9**	**710.7**	**15.4**	**173.5**
Establishments with an average of—												
20 to 49 employees	-	1	(1.3)	(15.1)	(1.1)	(2.3)	(10.9)	(31.2)	(68.8)	(99.6)	(1.5)	(15.2)
50 to 99 employees	-	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	7	2.6	32.8	1.9	3.9	23.5	72.6	156.1	248.4	3.9	33.4
500 to 999 employees	-	3	(5.0)	(88.3)	(4.0)	(8.5)	(68.3)	(142.0)	(245.0)	(362.7)	(10.0)	(124.9)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Industry 3354-12, Establishments Without Melting Facilities												
Total	-	**168**	**17.6**	**219.7**	**14.2**	**29.3**	**161.4**	**432.8**	**916.2**	**1 339.3**	**32.8**	**163.7**
Establishments with an average of—												
1 to 4 employees	E7	23	(Z)	0.5	(Z)	0.1	0.4	(S)	1.6	2.5	(Z)	0.5
5 to 9 employees	E8	13	0.1	1.0	0.1	0.1	0.7	1.4	2.6	4.1	0.1	0.9
10 to 19 employees	E9	11	0.2	2.0	0.1	0.3	1.4	3.7	7.1	10.8	0.2	2.0
20 to 49 employees	-	31	(10.7)	(124.6)	(8.4)	(17.2)	(88.5)	(274.6)	(622.7)	(891.6)	(19.3)	(108.0)
50 to 99 employees	-	37	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	40	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	8	2.7	37.8	2.2	4.8	28.5	66.1	143.7	209.1	5.0	23.9
500 to 999 employees	-	4	(3.9)	(53.8)	(3.3)	(6.8)	(42.0)	(87.4)	(138.5)	(221.2)	(8.1)	(28.4)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	34	0.3	3.5	0.2	0.4	2.5	5.8	11.5	17.3	0.4	3.3
INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.												
Total	-	**22**	**4.7**	**78.1**	**3.6**	**6.9**	**56.5**	**222.8**	**754.9**	**1 001.0**	**16.1**	**169.5**
Establishments with an average of—												
1 to 4 employees	E0	3	(Z)	0.1	(Z)	(Z)	0.1	0.2	0.5	0.7	(Z)	0.2
5 to 9 employees	E0	4	(Z)	0.4	(Z)	(Z)	0.3	0.8	2.4	3.2	(1.6)	1.0
50 to 99 employees	-	4	0.2	3.5	0.2	0.4	2.7	26.7	64.2	89.7	(D)	8.8
100 to 249 employees	-	6	1.2	14.7	0.8	1.7	9.8	25.4	147.7	172.4	(D)	31.4
250 to 499 employees	-	2	(3.3)	(59.3)	(2.5)	(4.8)	(43.6)	(169.7)	(540.1)	(735.1)	(14.3)	(128.2)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	7	(Z)	0.5	(Z)	0.1	0.4	1.0	2.9	3.9	0.1	1.2
Industry 3355-11, Establishments With Melting Facilities												
Total	-	**10**	**3.7**	**63.8**	**2.8**	**5.4**	**45.9**	**184.2**	**620.3**	**830.1**	**14.8**	**145.5**
Establishments with an average of—												
50 to 99 employees	-	3	(0.8)	(10.0)	(0.6)	(1.1)	(6.5)	(25.4)	(112.5)	(136.4)	(14.8)	(26.8)
100 to 249 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	1	(3.0)	(53.8)	(2.3)	(4.3)	(39.3)	(158.8)	(507.8)	(693.7)	(D)	(118.7)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Industry 3355-12, Establishments Without Melting Facilities												
Total	-	**12**	**1.0**	**14.3**	**0.8**	**1.5**	**10.7**	**38.6**	**134.7**	**170.9**	**1.3**	**24.1**
Establishments with an average of—												
1 to 4 employees	E0	3	(Z)	0.1	(Z)	(Z)	0.1	0.2	0.5	0.7	(Z)	0.2
5 to 9 employees	E0	4	(Z)	0.4	(Z)	(Z)	0.3	0.8	2.4	3.2	(1.2)	1.0
50 to 99 employees	-	1	(0.9)	(13.8)	(0.7)	(1.5)	(10.3)	(37.6)	(131.8)	(167.0)	(D)	(22.9)
100 to 249 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	7	(Z)	0.5	(Z)	0.1	0.4	1.0	2.9	3.9	0.1	1.2

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.												
Total	-	**174**	**17.9**	**267.7**	**12.3**	**25.2**	**160.9**	**599.8**	**2 048.3**	**2 676.5**	**36.1**	**486.0**
Establishments with an average of—												
1 to 4 employees	E4	36	0.1	0.8	0.1	0.1	0.5	(S)	6.4	8.8	0.1	1.3
5 to 9 employees	E4	23	0.2	2.3	0.1	0.2	1.4	6.6	17.8	22.9	0.4	4.6
10 to 19 employees	E5	28	0.4	5.4	0.3	0.6	3.1	12.1	29.8	42.0	(1.4)	6.5
20 to 49 employees	-	28	0.9	12.6	0.6	1.3	6.8	37.9	198.4	236.3	(D)	36.9
50 to 99 employees	-	22	1.4	20.2	1.1	2.1	12.5	49.7	241.0	302.3	4.0	37.8
100 to 249 employees	-	15	2.2	29.4	1.7	3.4	20.2	73.3	249.2	319.5	2.8	50.1
250 to 499 employees	-	12	4.0	58.5	2.7	5.5	32.8	147.9	553.2	704.4	9.7	83.6
500 to 999 employees	-	8	5.1	81.1	3.6	7.6	52.4	180.2	418.1	596.9	(17.7)	130.9
1,000 to 2,499 employees	-	1	(3.7)	(57.4)	(2.2)	(4.5)	(31.2)	(92.2)	(334.3)	(443.3)	(D)	(134.4)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	56	0.4	5.1	0.3	0.5	3.0	10.4	22.4	32.8	0.8	7.0
INDUSTRY 3357, NONFERROUS WIRE DRAWING AND INSULATING												
Total	-	**421**	**66.3**	**876.8**	**50.0**	**101.8**	**603.4**	**2 117.6**	**4 493.1**	**6 595.4**	**139.8**	**960.7**
Establishments with an average of—												
1 to 4 employees	E7	48	0.1	1.1	0.1	0.1	0.7	(S)	4.1	6.6	0.5	1.2
5 to 9 employees	E7	23	0.2	1.9	0.1	0.2	1.3	4.2	8.0	12.2	0.3	1.9
10 to 19 employees	E4	30	0.4	5.3	0.3	0.6	3.3	13.8	22.7	36.1	0.8	5.8
20 to 49 employees	-	64	2.1	23.9	1.7	3.3	16.3	55.8	115.7	170.8	4.6	25.3
50 to 99 employees	-	61	4.4	51.3	3.5	7.1	33.8	127.5	279.8	405.2	14.0	56.3
100 to 249 employees	-	121	19.9	247.8	15.3	31.5	174.1	636.9	1 536.6	2 169.4	37.4	303.0
250 to 499 employees	-	49	16.7	212.2	12.5	25.5	143.4	402.0	945.5	1 358.9	(82.3)	212.8
500 to 999 employees	-	18	12.0	165.0	8.6	16.8	108.2	407.4	790.1	1 176.8	(D)	216.6
1,000 to 2,499 employees	-	7	10.5	168.3	7.9	16.8	122.2	478.7	790.5	1 259.4	(D)	137.8
Covered by administrative records[2]	E0	61	0.4	5.2	0.3	0.6	3.6	10.6	21.6	32.2	0.7	5.0
Industry 3357-11, With Rod Mill												
Total	-	**40**	**12.3**	**166.5**	**9.7**	**20.3**	**122.8**	**383.9**	**1 171.0**	**1 542.7**	**24.7**	**205.7**
Establishments with an average of—												
20 to 49 employees	-	1	(0.4)	(4.0)	(0.3)	(0.6)	(3.1)	(10.1)	(22.0)	(31.6)	(0.7)	(3.6)
50 to 99 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	21	3.9	53.1	3.2	6.7	39.5	124.2	459.9	584.5	6.9	62.3
250 to 499 employees	-	8	2.6	36.6	2.1	4.4	27.6	38.6	331.3	367.1	(17.1)	38.1
500 to 999 employees	-	4	(5.5)	(72.8)	(4.2)	(8.6)	(52.6)	(210.8)	(357.9)	(559.5)	(D)	(101.7)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Industry 3357-12, Without Rod Mill or Insulating												
Total	-	**29**	**4.1**	**51.7**	**3.2**	**6.6**	**38.7**	**121.9**	**271.4**	**391.4**	**9.4**	**52.8**
Establishments with an average of—												
10 to 19 employees	-	2	(0.2)	(2.1)	(0.1)	(0.2)	(1.4)	(5.2)	(16.4)	(21.5)	(0.8)	(3.5)
20 to 49 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	7	0.6	6.7	0.5	1.0	5.2	21.6	50.1	72.7	0.5	7.1
100 to 249 employees	-	13	(3.4)	(42.9)	(2.7)	(5.4)	(32.1)	(95.2)	(204.9)	(297.2)	(8.1)	(42.1)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Industry 3357-13, Without Rod Mill but With Insulation												
Total	-	**113**	**30.8**	**443.6**	**22.9**	**46.6**	**305.8**	**1 106.9**	**2 260.2**	**3 349.9**	**76.0**	**489.5**
Establishments with an average of—												
10 to 19 employees	-	3	0.1	0.9	(Z)	0.1	0.5	2.2	1.7	3.8	(4.8)	0.3
20 to 49 employees	-	9	(1.5)	(18.0)	(1.2)	(2.3)	(11.1)	(43.6)	(133.3)	(174.4)	(D)	(27.1)
50 to 99 employees	-	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	52	8.8	114.1	6.5	13.3	78.7	320.2	731.1	1 053.2	17.2	163.7
250 to 499 employees	-	19	7.2	99.9	5.4	10.9	68.7	192.9	375.6	570.7	(54.0)	96.4
500 to 999 employees	-	8	(13.3)	(210.7)	(9.7)	(20.0)	(146.7)	(547.9)	(1 018.6)	(1 548.0)	(D)	(201.9)
1,000 to 2,499 employees	-	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Industry 3357-14, Without Wire Drawing												
Total	-	**235**	**16.6**	**209.7**	**13.8**	**27.6**	**133.0**	**495.3**	**777.1**	**1 288.5**	**28.8**	**210.8**
Establishments with an average of—												
1 to 4 employees	E7	48	0.1	1.1	0.1	0.1	0.7	(S)	4.1	6.6	0.5	1.2
5 to 9 employees	E7	23	0.2	1.9	0.1	0.2	1.3	4.2	8.0	12.2	(4.2)	1.9
10 to 19 employees	E1	25	(2.0)	(22.3)	(1.6)	(3.1)	(15.2)	(51.8)	(99.6)	(151.7)	(D)	(22.0)
20 to 49 employees	-	49	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	31	2.1	23.6	1.6	3.4	15.8	57.2	87.7	143.8	7.8	22.4
100 to 249 employees	-	34	(11.8)	(128.6)	(8.7)	(17.6)	(82.1)	(299.9)	(436.7)	(743.7)	(12.1)	(133.0)
250 to 499 employees	-	21	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	4	2.5	32.3	1.7	3.2	18.0	90.9	140.9	230.4	4.4	30.2
Covered by administrative records[2]	E0	61	0.4	5.2	0.3	0.6	3.6	10.6	21.6	32.2	0.7	5.0

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3398, METAL HEAT TREATING												
Total	-	**753**	**16.9**	**220.1**	**13.3**	**27.6**	**147.9**	**466.8**	**281.9**	**744.9**	**42.2**	**69.0**
Establishments with an average of—												
1 to 4 employees	E8	176	0.4	4.4	0.3	0.6	2.9	10.1	5.1	15.3	1.2	1.1
5 to 9 employees	E3	130	0.9	11.5	0.7	1.4	7.6	22.9	11.0	33.9	1.5	2.5
10 to 19 employees	E1	174	2.4	31.2	1.9	3.8	20.5	63.3	23.2	86.3	4.6	6.0
20 to 49 employees	-	191	6.0	78.2	4.7	9.5	51.2	159.0	60.9	218.9	19.5	18.4
50 to 99 employees	-	67	4.4	56.8	3.4	7.0	37.8	119.7	85.9	205.3	7.4	26.7
100 to 249 employees	-	13	(2.8)	(38.1)	(2.2)	(5.2)	(28.0)	(91.7)	(95.8)	(185.2)	(8.0)	(14.2)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	182	0.6	7.0	0.5	1.0	4.7	15.7	7.8	23.5	1.4	1.7
INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.												
Total	**E1**	**427**	**9.0**	**124.4**	**6.9**	**13.9**	**81.2**	**296.5**	**454.9**	**750.6**	**27.3**	**149.2**
Establishments with an average of—												
1 to 4 employees	E6	194	0.3	3.8	0.3	0.5	2.7	8.4	10.2	18.9	1.2	3.0
5 to 9 employees	E7	61	0.4	4.9	0.3	0.6	3.6	10.7	14.9	25.5	0.7	3.9
10 to 19 employees	E4	53	0.7	9.2	0.6	1.1	6.2	20.2	30.7	50.7	1.4	7.6
20 to 49 employees	E1	68	2.2	28.7	1.7	3.4	18.5	67.7	98.9	164.5	9.5	30.1
50 to 99 employees	-	36	2.6	37.6	1.9	3.9	24.1	92.9	123.6	215.3	7.9	49.7
100 to 249 employees	-	12	(2.8)	(40.1)	(2.0)	(4.4)	(26.2)	(96.7)	(176.6)	(275.8)	(6.6)	(54.9)
250 to 499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	215	1.1	13.9	1.0	1.7	9.9	27.4	32.4	59.7	2.0	10.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3351	**Copper rolling and drawing:**										
	Entire industry	140	31.3	455.5	24.2	50.5	338.7	973.7	3 019.9	4 013.8	64.4
	Establishments with 75 percent specialization or more	122	25.4	377.2	19.9	41.1	283.1	811.4	2 319.0	3 146.6	49.7
33511	Copper wire, bare and tinned, nonelectrical:										
	Establishments with this product class primary	7	1.8	23.2	1.4	2.8	16.6	46.8	70.8	117.1	2.0
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33513	Copper and copper-base alloy rods, bars, and shapes:										
	Establishments with this product class primary	29	9.5	135.3	7.2	15.5	100.2	275.0	1 445.6	1 728.6	10.1
	Establishments with 75 percent specialization or more in class	18	2.0	29.1	1.6	3.3	21.9	79.1	488.0	571.8	2.4
33514	Copper and copper-base alloy sheet, strip and plates:										
	Establishments with this product class primary	26	12.1	193.4	9.1	18.6	141.8	385.2	867.0	1 259.8	36.9
	Establishments with 75 percent specialization or more in class	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33515	Copper and copper-base alloy pipe and tubes:										
	Establishments with this product class primary	31	7.2	94.4	5.9	12.5	73.2	241.3	602.7	849.3	7.1
	Establishments with 75 percent specialization or more in class	29	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353	**Aluminum sheet, plate, and foil:**										
	Entire industry	53	31.4	613.5	25.0	50.6	480.1	1 293.8	4 900.5	5 924.0	157.7
	Establishments with 75 percent specialization or more	42	27.9	559.0	22.1	45.0	437.5	1 223.9	4 452.2	5 419.2	150.0
33531	Aluminum plates:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33532	Aluminum sheet and strip:										
	Establishments with this product class primary	29	28.1	554.2	22.3	45.2	435.3	1 168.0	4 367.5	5 287.0	147.9
	Establishments with 75 percent specialization or more in class	21	22.1	440.4	17.7	35.3	350.1	996.8	3 514.1	4 326.7	129.0
33533	Plain aluminum foil (under .006 inches):										
	Establishments with this product class primary	10	3.0	55.6	2.4	4.9	42.1	115.9	494.9	588.9	8.1
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33534	Aluminum welded tubes:										
	Establishments with this product class primary	5	0.3	2.9	0.2	0.4	2.0	6.5	31.7	38.4	0.8
	Establishments with 75 percent specialization or more in class	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3354	**Aluminum extruded products:**										
	Entire industry	193	26.5	355.9	21.2	44.0	264.1	678.6	1 386.1	2 050.0	48.2
	Establishments with 75 percent specialization or more	178	21.0	272.9	16.9	34.7	200.5	528.2	1 133.1	1 647.7	35.9
33541	Extruded aluminum rods, bars, and other shapes:										
	Establishments with this product class primary	128	22.6	303.3	18.0	37.7	223.7	598.7	1 204.1	1 790.1	42.7
	Establishments with 75 percent specialization or more in class	106	13.7	158.2	11.0	22.9	112.9	349.8	747.8	1 114.0	22.3
33542	Aluminum extruded and drawn tubes:										
	Establishments with this product class primary	15	3.3	43.8	2.7	5.2	34.0	64.5	150.4	212.5	2.2
	Establishments with 75 percent specialization or more in class	9	1.0	12.2	0.8	1.7	9.0	23.7	65.0	86.8	0.9
3355	**Aluminum rolling and drawing, n.e.c.:**										
	Entire industry	22	4.7	78.1	3.6	6.9	56.5	222.8	754.9	1 001.0	16.1
	Establishments with 75 percent specialization or more	16	3.3	56.5	2.6	5.1	41.6	148.7	593.8	765.6	(D)
33551	Aluminum and aluminum-base alloy wire:										
	Establishments with this product class primary	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33552	Rolled aluminum rods, bars, and structural shapes:										
	Establishments with this product class primary	6	2.0	32.9	1.5	2.8	23.7	64.5	213.2	273.5	3.8
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33553	Rolled aluminum ingot, except extrusion billet:										
	Establishments with this product class primary	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33554	Rolled aluminum extrusion billet:										
	Establishments with this product class primary	5	1.2	16.8	1.0	1.9	12.9	65.0	133.5	198.7	2.9
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3356	**Nonferrous rolling and drawing, n.e.c.:**										
	Entire industry	174	17.9	267.7	12.3	25.2	160.9	599.8	2 048.3	2 676.5	36.1
	Establishments with 75 percent specialization or more	157	16.2	243.1	11.1	22.6	145.4	530.6	1 933.3	2 492.2	32.9
33561	Nickel and nickel-base alloy mill shapes:										
	Establishments with this product class primary	12	6.2	94.8	3.9	8.1	54.6	192.2	688.5	900.5	14.4
	Establishments with 75 percent specialization or more in class	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33562	Titanium mill shapes:										
	Establishments with this product class primary	7	2.8	48.5	2.0	3.8	30.5	68.1	160.7	227.9	7.9
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33563	Precious metal mill shapes:										
	Establishments with this product class primary	23	3.0	40.7	2.1	4.4	24.4	132.5	691.5	833.7	(D)
	Establishments with 75 percent specialization or more in class	18	2.3	30.7	1.6	3.3	17.7	99.1	560.1	669.0	(D)
33569	Other nonferrous metal mill shapes:										
	Establishments with this product class primary	53	5.0	72.3	3.7	7.8	44.5	183.1	453.8	634.4	7.1
	Establishments with 75 percent specialization or more in class	41	3.0	44.1	2.2	4.4	25.9	110.4	285.2	395.4	3.9

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3357	**Nonferrous wire drawing and insulating:**										
	Entire industry	421	66.3	876.8	50.0	101.8	603.4	2 117.6	4 493.1	6 595.4	139.8
	Establishments with 75 percent specialization or more	389	61.4	800.2	46.5	94.0	552.9	1 991.7	3 969.1	5 944.4	127.7
33571	Aluminum and aluminum-base alloy wire and cable:										
	Establishments with this product class primary	12	1.3	19.9	0.9	1.8	12.2	53.0	189.7	244.6	3.9
	Establishments with 75 percent specialization or more in class	8	0.7	10.6	0.5	1.0	7.3	22.2	119.7	145.4	(D)
33572	Copper and copper-base alloy wire:										
	Establishments with this product class primary	28	5.2	68.5	4.2	8.9	52.3	104.9	548.6	644.4	11.3
	Establishments with 75 percent specialization or more in class	21	2.3	26.8	1.9	4.1	20.6	59.8	151.0	211.2	6.4
33573	Other bare nonferrous metal wire:										
	Establishments with this product class primary	13	1.6	24.8	1.2	2.6	16.5	76.2	85.1	160.5	2.2
	Establishments with 75 percent specialization or more in class	9	0.8	11.8	0.6	1.4	8.0	50.5	60.2	110.6	1.5
33575	Nonferrous wire cloth and other woven products:										
	Establishments with this product class primary	7	1.1	12.2	0.9	1.7	8.9	33.3	61.3	93.1	1.0
	Establishments with 75 percent specialization or more in class	7	1.1	12.2	0.9	1.7	8.9	33.3	61.3	93.1	1.0
33576	Apparatus wire and cordage and flexible cord sets:										
	Establishments with this product class primary	36	8.5	81.9	6.8	12.9	57.2	213.6	300.9	507.7	8.5
	Establishments with 75 percent specialization or more in class	22	4.1	37.2	3.4	6.0	25.6	84.3	120.8	204.1	2.2
33577	Magnet wire:										
	Establishments with this product class primary	38	5.8	79.2	4.7	9.7	59.3	229.2	563.4	791.9	10.6
	Establishments with 75 percent specialization or more in class	36	5.6	76.7	4.5	9.3	57.3	223.1	544.0	766.8	10.2
33578	Power wire and cable:										
	Establishments with this product class primary	30	7.6	104.6	5.4	11.3	67.0	207.8	458.4	673.4	19.3
	Establishments with 75 percent specialization or more in class	12	2.2	28.7	1.7	3.9	20.0	86.4	137.3	222.1	7.7
3357A	Electronic wire and cable:										
	Establishments with this product class primary	64	8.6	99.9	5.9	12.2	61.4	229.7	266.1	490.4	16.9
	Establishments with 75 percent specialization or more in class	49	5.3	64.0	3.7	7.9	40.9	151.7	156.5	305.3	10.5
3357B	Telephone and telegraph wire and cable:										
	Establishments with this product class primary	36	13.5	225.0	10.0	21.1	160.0	630.7	1 151.0	1 769.9	47.1
	Establishments with 75 percent specialization or more in class	30	10.7	182.3	7.6	15.6	126.1	523.8	838.7	1 356.0	39.3
3357C	Control and signal wire and cable:										
	Establishments with this product class primary	7	1.5	18.4	1.0	1.9	9.1	28.9	41.8	70.7	1.9
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3357D	Building wire and cable:										
	Establishments with this product class primary	32	6.9	86.4	5.2	10.3	59.7	193.8	645.2	841.1	8.8
	Establishments with 75 percent specialization or more in class	22	3.2	37.1	2.5	5.1	26.2	87.6	377.9	472.8	3.8
3357E	Other insulated wire and cable (including auto):										
	Establishments with this product class primary	23	3.7	42.9	2.9	5.5	30.0	103.2	148.2	250.2	6.3
	Establishments with 75 percent specialization or more in class	12	1.7	18.6	1.5	2.7	14.7	56.1	77.9	133.3	(D)
3398	**Metal heat treating:**										
	Entire industry	753	16.9	220.1	13.3	27.6	147.9	466.8	281.9	744.9	42.2
	Establishments with 75 percent specialization or more	711	15.7	205.7	12.3	25.6	137.8	439.6	271.2	707.0	39.9
3399	**Primary metal products, n.e.c.:**										
	Entire industry	427	9.0	124.4	6.9	13.9	81.2	296.5	454.9	750.6	27.3
	Establishments with 75 percent specialization or more	407	8.2	113.2	6.3	12.6	73.6	269.8	418.9	688.3	(D)
33991	Metal powders, paste, and flakes:										
	Establishments with this product class primary	77	5.1	74.5	3.7	7.8	46.9	184.0	332.7	516.3	13.4
	Establishments with 75 percent specialization or more in class	68	4.5	66.3	3.3	6.9	41.7	162.5	309.6	472.4	(D)
33992	Primary metal products, n.e.c.:										
	Establishments with this product class primary	34	1.6	20.2	1.2	2.4	12.9	48.5	57.7	106.2	3.2
	Establishments with 75 percent specialization or more in class	29	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product† specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3351	Copper rolling and drawing	1977	4,013.8	3,248.7	568.5	196.6	85	3,536.1	3,248.7	287.4	92
		1972	3,098.8	2,629.5	339.1	130.2	89	2,825.0	2,629.5	195.5	93
		1967	2,391.1	2,062.2	223.0	105.9	90	2,216.8	2,062.2	154.6	93
3353	Aluminum sheet, plate, and foil	1977	5,924.0	5,334.3	482.9	106.8	92	5,358.8	5,334.3	24.5	99+
		1972	2,685.2	2,214.7	389.6	80.9	85	2,238.0	2,214.7	23.3	99
		1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3354	Aluminum extruded products	1977	2,050.0	1,766.2	235.3	48.4	88	1,928.2	1,766.2	162.0	92
		1972	1,078.3	902.8	148.6	26.9	85	1,026.4	902.8	123.6	88
		1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3355	Aluminum rolling and drawing, n.e.c.	1977	1,001.0	884.2	84.6	32.2	91	1,367.5	884.2	483.3	65
		1972	343.4	286.8	45.9	10.7	86	684.2	286.8	397.4	42
		1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3356	Nonferrous rolling and drawing, n.e.c.	1977	2,676.5	2,441.1	159.5	75.9	94	2,616.5	2,441.1	175.4	93
		1972	1,244.6	990.4	191.6	62.6	84	1,135.1	990.4	144.7	87
		1967	984.0	854.5	108.0	21.5	89	1,012.0	854.5	157.5	84
3357	Nonferrous wire drawing and insulating	1977	6,595.4	5,986.5	379.2	229.7	94	6,460.3	5,986.5	473.8	93
		1972	4,412.3	4,002.2	253.5	156.6	94	4,500.1	4,002.2	497.9	89
		1967	3,591.4	3,247.9	242.8	100.7	93	3,650.9	3,247.9	403.0	89
3398	Metal heat treating	1977	744.9	649.5	8.2	87.2	(1)	[2]704.1	649.5	[2]54.6	(1)
		1972	467.4	462.9	4.0	.5	(1)	(2)	462.9	(2)	(1)
		1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3399	Primary metal products, n.e.c.	1977	750.6	676.3	43.2	31.2	94	967.5	676.3	291.2	70
		1972	348.3	307.0	28.0	13.3	92	416.5	307.0	109.5	74
		1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

(NA) Not available. n.e.c. Not elsewhere classified.

[1]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[2]For 1977, data are not comprehensive, because receipts for metal heat treating for establishments classified outside of industry 3398 could be classified as receipts for contract work. 1977 data were not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Copper rolling and drawing (SIC 3351)	Aluminum sheet, plate, and foil (SIC 3353)	Aluminum extruded products (SIC 3354)	Aluminum rolling and drawing, n.e.c. (SIC 3355)	Nonferrous rolling and drawing, n.e.c. (SIC 3356)	Nonferrous wire drawing and insulating (SIC 3357)	Metal heat treating (SIC 3398)	Primary metal products, n.e.c. (SIC 3399)	Other industries
	Total	(X)	4,013.8	5,924.0	2,050.0	1,001.0	2,676.5	6,595.4	744.9	750.6	(X)
	Primary products	(X)	3,248.7	5,334.3	1,766.2	884.2	2,441.1	5,986.5	649.5	676.3	(X)
	Secondary products	(X)	568.5	482.9	235.3	84.6	159.5	379.2	8.2	43.2	(X)
	Miscellaneous receipts	(X)	196.6	106.8	48.4	32.2	75.9	229.7	87.2	31.2	(X)
3351-	Copper rolling and drawing	3,536.1	3,248.7	-	(D)	-	2.5	(D)	-	-	52.7
33511	Copper wire, bare and tinned, nonelectrical	170.7	146.2	-	-	-	(D)	20.3	-	-	(D)
33513	Copper and copper-base alloy rods, bars, and shapes	1,491.3	1,262.4	-	(D)	-	(D)	(D)	-	-	(D)
33514	Copper and copper-base alloy sheet, strip, and plates	937.3	918.2	-	-	-	(D)	-	-	-	(D)
33515	Copper and copper-base alloy pipe and tubes	895.5	880.8	-	(D)	-	(D)	-	-	-	(D)
33510	Copper rolling and drawing, n.s.k	41.3	41.2	-	-	-	-	-	-	-	.1
3353-	Aluminum sheet, plate, and foil	5,358.8	(D)	5,334.3	(D)	-	(D)	-	-	-	9.0
33531	Aluminum plates	247.3	-	(D)	(D)	-	-	-	-	-	(D)
33532	Aluminum sheet and strip	4,569.6	(D)	4,559.0	(D)	-	(D)	-	-	-	(D)
33533	Plain aluminum foil (under .006 inch)	476.6	-	(D)	-	-	-	-	-	-	(D)
33534	Aluminum welded tubes	61.6	(D)	(D)	-	-	-	-	-	-	-
33530	Aluminum sheet, plate, and foil, n.s.k	3.7	-	3.7	-	-	-	-	-	-	-
3354-	Aluminum extruded products	1,928.2	28.6	(D)	1,766.2	(D)	1.0	(D)	-	-	30.7
33541	Extruded aluminum rods, bars, and other shapes	1,541.9	(D)	(D)	1,427.2	(D)	(D)	(D)	-	-	(D)
33542	Aluminum extruded and drawn tubes	333.0	(D)	(D)	287.3	(D)	(D)	-	-	-	(D)
33540	Aluminum extruded products, n.s.k	53.3	-	-	51.7	-	-	-	-	-	1.6
3355-	Aluminum rolling and drawing, n.e.c	1,367.5	(D)	121.2	43.1	884.3	4.3	(D)	-	-	(D)
33551	Aluminum and aluminum-base alloy wire	124.1	(D)	(D)	-	83.4	(D)	(D)	-	-	(D)
33552	Rolled aluminum rods, bars, and structural shapes	530.0	(D)	(D)	-	289.9	-	(D)	-	-	(D)
33553	Rolled aluminum ingot, except extrusion billet	(D)	(D)	(D)	(D)	(D)	(D)	-	-	-	(D)
33554	Rolled aluminum extrusion billet	(D)	-	(D)	(D)	(D)	-	-	-	-	-
33550	Aluminum rolling and drawing, n.e.c., n.s.k	3.9	-	-	-	3.9	-	-	-	-	-
3356-	Nonferrous rolling and drawing, n.e.c	2,616.5	12.7	(D)	(D)	-	2,441.1	(D)	-	(D)	119.8
33561	Nickel and nickel-base alloy mill shapes	873.2	11.3	-	-	-	844.1	(D)	-	-	(D)
33562	Titanium mill shapes	250.7	-	-	(D)	-	225.9	-	-	-	(D)
33563	Precious metal mill shapes	751.7	(D)	-	-	-	(D)	-	-	-	-
33569	Other nonferrous metal mill shapes	662.1	(D)	(D)	7.8	-	543.7	-	-	(D)	95.6
33560	Nonferrous rolling and drawing, n.e.c., n.s.k	78.8	-	-	-	-	(D)	-	-	-	(D)
3357-	Nonferrous wire drawing and insulating	6,460.3	(D)	(D)	-	(D)	(D)	5,986.5	-	-	265.5
33571	Aluminum and aluminum-base alloy wire and cable	263.4	(D)	-	-	-	-	(D)	-	-	(D)
33572	Copper and copper-base alloy wire	496.8	(D)	-	-	-	-	457.1	-	-	(D)
33573	Other bare nonferrous metal wire	117.9	-	-	-	-	(D)	115.7	-	-	(D)
33575	Nonferrous wire cloth and other woven products	94.5	(D)	(D)	-	-	-	(D)	-	-	(D)
33576	Apparatus wire and cordage and flexible cord sets	447.8	-	-	-	-	-	435.3	-	-	12.5
33577	Magnet wire	754.4	-	-	-	-	-	(D)	-	-	(D)
33578	Power wire and cable	705.9	(D)	-	-	(D)	-	661.5	-	-	1.7
3357A	Electronic wire and cable	478.9	-	-	-	-	-	451.6	-	-	27.2
3357B	Telephone and telegraph wire and cable	1,600.2	-	-	-	-	-	(D)	-	-	(D)
3357C	Control and signal wire and cable	128.3	-	-	-	-	-	(D)	-	-	(D)
3357D	Building wire and cable	890.2	(D)	-	-	(D)	-	783.9	-	-	-
3357E	Other insulated wire and cable, including automotive	431.7	(D)	-	-	(D)	(D)	368.0	-	-	39.3
33570	Nonferrous wire drawing and insulating, n.s.k	50.3	-	-	-	-	-	49.9	-	-	.4
33980	Metal heat treating	704.1	-	-	(Z)	-	-	-	649.5	(D)	(D)
3399-	Primary metal products, n.e.c	967.5	(D)	(D)	-	-	(D)	.9	(D)	676.3	222.8
33991	Metal powders, paste, and flakes	702.2	(D)	(D)	-	-	(D)	-	(D)	467.9	(D)
33992	Primary metal products, n.e.c	144.7	(D)	-	-	-	(D)	-	(D)	88.9	(D)
33990	Primary metal products, n.e.c., n.s.k	120.6	-	-	-	-	-	.9	-	119.5	.3
	Other shipments by 4-digit product group:										
2531-	Public building and related furniture	(X)	-	-	(D)	-	-	-	-	-	(X)
2813-	Industrial gases	(X)	-	-	-	-	(D)	-	-	-	(X)
2819-	Industrial inorganic chemicals, n.e.c	(X)	-	-	-	-	-	-	-	(D)	(X)
2891-	Adhesives and sealants	(X)	-	-	-	-	(D)	-	-	-	(X)
2899-	Chemical preparations, n.e.c	(X)	-	-	(D)	-	(D)	(D)	-	(D)	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	(D)	-	-	(D)	-	-	(X)
3211-	Flat glass	(X)	-	-	(D)	-	-	-	-	-	(X)
3264-	Porcelain electrical supplies	(X)	(D)	-	-	-	(D)	(D)	-	-	(X)
3296-	Mineral wool	(X)	-	-	-	-	-	(D)	-	-	(X)
3312-	Blasts furnace and steel mill products	(X)	-	-	-	(D)	(D)	-	-	-	(X)
3315-	Steel wire and related products	(X)	-	-	-	-	(D)	(D)	-	-	(X)
3316-	Cold finishing of steel shapes	(X)	(D)	-	-	-	-	(D)	-	-	(X)
3339-	Primary nonferrous metals, n.e.c	(X)	-	-	-	-	(D)	-	-	(D)	(X)
3341-	Secondary nonferrous metals	(X)	(D)	(D)	(D)	-	(D)	-	-	(D)	(X)
3362-	Brass, bronze, and copper castings	(X)	33.7	-	-	-	-	-	-	-	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Copper rolling and drawing (SIC 3351)	Aluminum sheet, plate, and foil (SIC 3353)	Aluminum extruded products (SIC 3354)	Aluminum rolling and drawing, n.e.c. (SIC 3355)	Nonferrous rolling and drawing, n.e.c. (SIC 3356)	Nonferrous wire drawing and insulating (SIC 3357)	Metal heat treating (SIC 3398)	Primary metal products, n.e.c. (SIC 3399)	Other industries
	Other shipments by 4-digit product group--Con.										
3369-	Nonferrous castings, n.e.c	(X)	-	-	-	-	(D)	-	-	(D)	(X)
3411-	Metal cans	(X)	-	-	-	(D)	-	-	-	-	(X)
3423-	Hand and edge tools, n.e.c	(X)	-	-	-	-	-	(D)	-	-	(X)
3441-	Fabricated structural metal	(X)	-	-	-	(D)	-	-	-	-	(X)
3442-	Metal doors, sash, and trim	(X)	-	-	(D)	-	-	-	-	-	(X)
3444-	Sheet metal work	(X)	-	(D)	(D)	-	(D)	-	-	(D)	(X)
3448-	Prefabricated metal buildings	(X)	-	-	(D)	-	-	-	-	-	(X)
3451-	Screw machine products	(X)	(D)	-	-	-	-	-	(D)	-	(X)
3463-	Nonferrous forgings	(X)	(D)	(D)	(D)	-	-	-	-	-	(X)
3465-	Automotive stampings	(X)	-	(D)	-	-	-	-	-	-	(X)
3469-	Metal stampings, n.e.c	(X)	-	-	-	-	(D)	-	-	-	(X)
3471-	Plating and polishing	(X)	(D)	-	(D)	-	(D)	-	(D)	-	(X)
3494-	Valves and pipe fittings	(X)	(D)	-	-	-	(D)	(D)	-	-	(X)
3497-	Metal foil and leaf	(X)	-	(D)	-	-	-	-	-	-	(X)
3499-	Fabricated metal products, n.e.c	(X)	(D)	(D)	(D)	-	-	-	-	4.0	(X)
3537-	Industrial trucks and tractors	(X)	-	-	-	-	-	-	(D)	-	(X)
3546-	Power driven hand tools	(X)	-	-	-	-	-	-	-	(D)	(X)
3552-	Textile machinery	(X)	-	-	-	-	-	-	-	(D)	(X)
3559-	Special industry machinery, n.e.c	(X)	-	-	-	-	-	(D)	-	-	(X)
3623-	Welding apparatus, electric	(X)	(D)	-	-	-	(D)	-	-	-	(X)
3643-	Current-carrying wiring devices	(X)	-	-	-	-	(D)	(D)	-	-	(X)
3644-	Noncurrent-carrying wiring devices	(X)	(D)	-	-	-	-	(D)	-	(D)	(X)
3661-	Telephone and telegraph apparatus	(X)	-	-	-	-	-	(D)	-	-	(X)
3662-	Radio and TV communication equipment	(X)	-	-	-	-	-	(D)	-	-	(X)
3678-	Electronic connectors	(X)	-	-	-	-	-	9.7	-	-	(X)
3679-	Electronic components, n.e.c	(X)	-	-	-	-	-	10.7	(D)	(D)	(X)
3694-	Engine electrical equipment	(X)	-	-	-	-	-	(D)	-	-	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	(D)	(D)	-	-	(D)	(D)	-	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	-	-	(D)	-	-	-	(X)
3728-	Aircraft equipment, n.e.c	(X)	-	-	-	-	(D)	-	-	-	(X)
3823-	Process control instruments	(X)	-	-	-	-	-	(D)	-	-	(X)
3829-	Measuring and controlling devices, n.e.c	(X)	-	-	-	-	-	(D)	-	-	(X)
3843-	Dental equipment and supplies	(D)	-	-	-	-	(D)	-	-	-	(X)
3999-	Manufacturing industries, n.e.c	(X)	-	-	(D)	-	-	-	-	-	(X)
	Miscellaneous receipts:										
93000 00	Contract work	(X)	168.5	7.9	8.0	(D)	19.5	47.6	30.4	5.0	(X)
99980 00	Other miscellaneous receipts	(X)	14.3	78.7	18.8	(D)	20.1	76.1	2.1	6.0	(X)
99980 00	Resales	(X)	13.7	20.2	21.6	(D)	(D)	106.0	54.7	20.2	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3351-	3316 Cold finishing of steel shapes	(D)
	3469 Metal stampings, n.e.c	(D)
	3585 Refrigeration and heating equipment	(D)
	3621 Motors and generators	(D)
	3661 Telephone and telegraph apparatus	(D)
3353-	3316 Cold finishing of steel shapes	(D)
3354-	3442 Metal doors, sash, and trim	(D)
3355-	3334 Primary aluminum	(D)
3356-	2819 Industrial inorganic chemicals, n.e.c	(D)
	3316 Cold finishing of steel shapes	(D)
	3661 Telephone and telegraph apparatus	(D)
	3694 Engine electrical equipment	(D)
	3822 Environmental controls	(D)
3357-	3079 Miscellaneous plastics products	(D)
	3315 Steel wire and related products	(D)
3357-	3661 Telephone and telegraph apparatus	(D)
	3694 Engine electrical equipment	(D)
	3714 Motor vehicle parts and accessories	(D)
	3822 Environmental controls	(D)
3398-	3316 Cold finishing of steel shapes	(D)
	3471 Plating and polishing	6.2
	3531 Contractors' off-highway wheel tractors, except parts and attachments	(D)
3399-	3312 Blast furnaces and steel mills	(D)
	3321 Gray iron foundries	(D)
	3331 Primary copper	(D)
	3334 Primary aluminum	(D)
	3339 Primary nonferrous metals, n.e.c	(D)
	3545 Machine tool accessories	(D)
	3623 Arc welding machines, components, and accessories, except electrodes	(D)
	3624 Carbon and graphite products	(D)
	3694 Engine electrical equipment	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]: Total quantity[2]	Total value (million dollars)	Shipments to other companies: quantity[2]	Shipments to other companies: value (million dollars)	Interplant transfers: quantity[2]	Interplant transfers: value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in same plant in manufacture of other products
			1977									
	COPPER ROLLING AND DRAWING											
3351- --	Total	1,000 s. tons	(NA)	(NA)	[3]2,090.3	[3]3,536.1	[3]1,627.6	[3]2,870.9	462.7	665.2	(NA)	(NA)
33511 --	Copper and copper-base alloy wire (bare and tinned) for purposes other than electrical transmission		(NA)	62.0	60.9	170.7	53.9	155.5	7.0	15.2	3.5	.8
33511 11	Unalloyed		6	13.0	13.0	41.3	13.0	41.3	-	-	3.5	-
33511 31	Alloyed		21	49.0	47.9	129.4	40.9	114.2	7.0	15.2		.8
33513 --	Copper and copper-base alloy rod, bar, and shapes		(NA)	1,478.0	[3]1,080.8	[3]1,491.3	[3]747.3	[3]1,028.4	333.5	462.9	363.3	65.0
33513 11	Unalloyed copper bars and shapes and nonelectrical rod		16	1,022.6	725.4	965.6	428.0	558.0	297.4	407.6	363.3	65.0
33513 32	Copper-base alloy rod, bar, and shapes		28	450.6	350.6	519.1	314.5	463.8	36.1	55.3		
33513 00	Copper and copper-base alloy rod, bar, and shapes, n.s.k.		(NA)	[e]4.8	[e]4.8	[e]6.6	[e]4.8	[e]6.6	-	-	-	-
33514 --	Copper and copper-base alloy sheet, strip, and plate		(NA)	560.7	504.1	937.3	402.7	782.2	101.4	155.1	118.5	51.1
33514 13	Unalloyed copper flat products (sheet, strip, plate, foil, etc.)		11	127.0	126.5	234.6	96.6	201.7	19.8	32.9	5.5	
33514 35	Copper-base alloy flat products (sheet, strip, plate, and foil), including military cups and discs (net weight)		23	433.7	377.6	702.7	296.0	580.5	81.6	122.2	113.0	51.1
33515 --	Copper and copper-base alloy pipe and tube		(NA)	456.6	[3]420.8	[3]895.5	[3]400.0	[3]863,5	20.8	32.0	(D)	27.3
	Unalloyed:											
33515 16	Pipe and tube, plumbing		13	225.9	229.3	436.9	291.9	596.0	18.9	28.3	(D)	(D)
33515 18	Other pipe and tube		11	118.6	81.5	187.8					39.9	13.6
	Copper-base alloy:											
33515 36	Pipe and tube, plumbing		8	28.1	27.9	55.7	27.9	55.7	-	-	-	(D)
33515 38	Other pipe and tube		18	81.0	79.1	208.8	77.2	205.1	1.9	3.7	2.4	(D)
33515 00	Copper and copper-base alloy pipe and tube, n.s.k.		(NA)	[e]3.0	[e]3.0	[e]6.3	[e]3.0	[e]6.3	-	-	-	-
33510 00	Copper rolling and drawing, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(NA)	[e]12.0	[e]20.4	[e]11.5	[e]20.4	-	-	(X)	(X)
33510 02	Copper rolling and drawing, n.s.k., typically for establishments with less than 20 employees (see note)	1,000 s. tons	(NA)	(NA)	[e]12.2	[e]20.9	[e]12.2	[e]20.9	-	-	(X)	(X)
			1972									
	COPPER ROLLING AND DRAWING											
3351- --	Total	1,000 s. tons	(NA)	(NA)	(NA)	2,825.0	(NA)	(S)	(NA)	(NA)	(NA)	(NA)
33511 --	Copper and copper-base alloy wire (bare and tinned) for purposes other than electrical transmission		(NA)	(NA)	(NA)	157.9	(D)	(D)	(D)	(D)	(NA)	(NA)
33511 11	Unalloyed		(NA)	8.5	9.7	18.4	9.7	18.4	-	-	-	(D)
33511 31	Alloyed		(NA)	74.2	74.4	132.8	(D)	(D)	(D)	(D)	(D)	(D)
33511 00	Copper and copper-base alloy wire (bare and tinned) for purposes other than electrical transmission, n.s.k.		(NA)	(NA)	(NA)	6.7	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33513 --	Copper and copper-base alloy rod, bar, and shapes		(NA)	1,711.5	1,213.5	1,170.9	819.3	712.5	394.2	458.4	375.8	113.8
33513 11	Unalloyed copper bars and shapes and nonelectrical rod		(NA)	1,051.3	660.3	618.0	376.4	279.0	283.9	339.0	298.4	101.8
33513 32	Copper-base alloy rod, bar, and shapes	1,000 s. tons	(NA)	660.2	553.2	552.9	442.9	433.5	110.3	119.4	77.4	12.0

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers: Total Quantity	Total Value (million dollars)	Shipments to other companies Quantity	Shipments to other companies Value (million dollars)	Interplant transfers Quantity	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.									
3351- --	COPPER ROLLING AND DRAWING--Con.											
33514 --	Copper and copper-base alloy sheet, strip, and plate	1,000 s. tons	(NA)	645.3	539.9	705.9	460.8	619.4	79.1	86.5	(D)	(D)
33514 13	Unalloyed copper flat products (sheet, strip, plate, foil, etc.)		(NA)	113.3	114.9	175.8	108.1	167.6	6.8	8.2	(D)	(D)
33514 35	Copper-base alloy flat products (sheet, strip, plate, and foil), including military cups and discs (net weight)		(NA)	532.0	425.0	530.1	352.7	451.8	72.3	78.3	(D)	(D)
33515 --	Copper and copper-base alloy pipe and tube		(NA)	(NA)	(NA)	761.8	(D)	(D)	(D)	(D)	(NA)	(NA)
	Unalloyed:											
33515 16	Pipe and tube, plumbing		(NA)	251.5	253.7	361.3	247.8	353.0	5.9	8.3	(D)	(D)
33515 18	Other pipe and tube		(NA)	122.4	108.5	171.0	93.9	151.6	14.6	19.4	(D)	(D)
	Copper-base alloy:											
33515 36	Pipe and tube, plumbing		(NA)	16.1	18.4	32.7	(D)	(D)	(D)	(D)	(D)	(D)
33515 38	Other pipe and tube		(NA)	89.5	90.0	166.2	(D)	(D)	(D)	(D)	(D)	(D)
33515 00	Copper and copper-base alloy pipe and tube, n.s.k.	1,000 s. tons	(NA)	(NA)	(NA)	30.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33510 00	Copper rolling and drawing, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(NA)	(NA)	26.0	(NA)	(NA)	(NA)	(NA)	(X)	(X)
33510 02	Copper rolling and drawing, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(NA)	(NA)	2.5	(NA)	(NA)	(NA)	(NA)	(X)	(X)
			1977									
	ALUMINUM SHEET, PLATE, AND FOIL[4]											
3353- --	Total	.....	(NA)	4,111.5	[3]3,864.6	[3]5,358.4	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33531 --	Aluminum plate (0.25 inch and over, including continuous cast)	.....	(NA)	145.5	143.2	247.3	103.2	191.6	40.0	55.7	-	-
33531 13	Heat-treatable	1,000 s. tons	8	79.0	76.9	146.8	60.9	119.8	16.0	27.0	-	-
33531 15	Nonheat-treatable	1,000 s. tons	8	66.5	66.3	100.5	42.3	71.8	24.0	28.7	-	-
33532 --	Aluminum sheet, including continuous cast	.....	(NA)	3,536.1	3,383.6	4,569.6	2,440.9	3,317.1	942.7	1,252.4	-	-
33532 23	Flat, heat-treatable	1,000 s. tons	9	87.3	92.8	166.1	74.6	133.2	18.2	32.9	-	-
33532 24	Flat, nonheat-treatable, bare		9								(D)	(D)
33532 26	Flat, nonheat-treatable, precoated, including only permanent finishes such as enameling and vinyl coating, but excluding coatings which are applied only for temporary protection		2	334.6	317.8	462.2	(D)	(D)	(D)	(D)	-	-
33532 27	Coiled, heat-treatable		7	440.5	433.3	533.8	(D)	(D)	(D)	(D)	(D)	(D)
33532 31	Coiled, nonheat-treatable, bare		14	2,343.6	2,231.7	2,950.3	1,580.7	2,080.7	651.0	869.6	60.1	(D)
33532 33	Coiled, nonheat-treatable, precoated, including only permanent finishes such as enameling and vinyl coating, but excluding coatings which are applied only for temporary protection		12	330.1	308.0	457.1	244.3	366.0	63.7	91.1	(D)	(D)
33533 --	Plain aluminum foil:											
33533 51	Plain aluminum foil (under .006 inch)		12	384.6	296.1	476.6	191.6	303.1	104.5	173.5	(D)	88.2
33534 --	Aluminum welded tube:											
33534 55	Aluminum welded tube	1,000 s. tons	8	43.6	39.1	61.6	(D)	(D)	(D)	(D)	-	(D)
33530 02	Aluminum sheet, plate, and foil, n.s.k., typically for establishments with less than 10 employees in 1977 (see note)	.....	(NA)	[6]2.6	[6]2.6	3.7	(NA)	(NA)	(NA)	(NA)	(X)	(X)

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1972									
	ALUMINUM SHEET, PLATE, AND FOIL											
3353- --	Total	.....	(NA)	(NA)	(NA)	2,238.0	(NA)	(D)	(NA)	(D)	(NA)	(NA)
33531 --	Aluminum plate (0.25 inch and over, including continuous cast)	.....	(NA)	84.8	77.7	89.5	60.2	71.9	17.5	17.6	(D)	(D)
33531 13	Heat-treatable	1,000 s. tons	(NA)	40.7	40.1	51.5	(D)	(D)	(D)	(D)	-	-
33531 15	Nonheat-treatable	1,000 s. tons	(NA)	44.1	37.6	38.0	(D)	(D)	(D)	(D)	(D)	(D)
33532 --	Aluminum sheet, including continuous cast	.....	(NA)	(NA)	(NA)	1,897.4	(NA)	(NA)	(NA)	(NA)	(D)	(D)
33532 23	Flat, heat-treatable	1,000 s. tons	(NA)	48.0	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33532 24	Flat, nonheat-treatable, bare		(NA)	311.3	307.8	251.5	289.3	238.0	18.5	13.5	(D)	(D)
33532 26	Flat, nonheat-treatable, precoated, including only permanent finishes such as enameling and vinyl coating, but excluding coatings which are applied only for temporary protection		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33532 27	Coiled, heat-treatable		(NA)	59.6	58.6	43.9	(D)	(D)	(D)	(D)	-	-
33532 31	Coiled, nonheat-treatable, bare	1,000 s. tons	(NA)	2,317.6	1,981.9	1,320.1	1,203.9	846.1	778.0	474.0	15.0	-
33532 33	Coiled, nonheat-treatable, precoated, including only permanent finishes such as enameling and vinyl coating, but excluding coatings which are applied only for temporary protection	1,000 s. tons	(NA)	258.5	252.8	210.1	163.7	139.2	89.1	70.9	(D)	-
33532 00	Aluminum sheet, including continuous cast, n.s.k.	.....	(NA)	(X)	(X)	10.2	(X)	(NA)	(X)	(NA)	(X)	(X)
33533 --	Plain aluminum foil:											
33533 51	Plain aluminum foil (under .006 inch)	1,000 s. tons	(NA)	365.1	230.2	216.8	151.0	146.6	79.2	70.2	134.6	(D)
33534 --	Aluminum welded tube:											
33534 55	Aluminum welded tube	1,000 s. tons	(NA)	38.0	37.8	34.3	(D)	(D)	(D)	(D)	-	-

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1977									
	ALUMINUM EXTRUDED PRODUCTS											
3354- --	Total	.....	(NA)	(X)	(X)	1,928.2	(X)	(NA)	(X)	(NA)	(X)	(X)
33541 --	Extruded aluminum rod, bar, and other extruded shapes	.....	(NA)	(X)	(X)	1,541.9	(X)	(NA)	(X)	(NA)	(X)	(X)
	Extruded rod and bar:											
33541 15	Alloys other than 2,000 and 7,000 series	1,000 s. tons	29	192.1	190.9	305.7	152.6	252.9	38.3	52.8	(D)	(D)
33541 18	Alloys in 2,000 and 7,000 series	1,000 s. tons	11	82.9	76.2	124.1	48.3	87.0	27.9	37.1	(D)	-
	Other extruded shapes, except tube:											
33541 25	Alloys other than 2,000 and 7,000 series	1,000 s. tons	61	578.2	552.0	960.2	546.1	995.2	72.2	106.7	5.2	19.7
33541 28	Alloys in 2,000 and 7,000 series	1,000 s. tons	12	63.4	66.3	141.7					-	
33541 00	Extruded aluminum rod, bar, and other extruded shapes, n.s.k.	.....	(NA)	(X)	(X)	10.2	(X)	(NA)	(X)	(NA)	(X)	(X)
33542 --	Aluminum tube	.....	(NA)	(X)	(X)	333.0	(X)	(NA)	(X)	(NA)	(X)	(X)
33542 51	Extruded	1,000 s. tons	30	140.4	131.8	223.2	163.8	303.6	17.7	27.6	-	10.8
33542 53	Drawn	1,000 s. tons	11	47.0	49.7	108.0					-	
33542 00	Aluminum tube, n.s.k.	.....	(NA)	(X)	(X)	1.9	(X)	(NA)	(X)	(NA)	(X)	(X)
33540 00	Aluminum extruded products, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	(X)	36.0	(X)	(NA)	(X)	(NA)	(X)	(X)
33540 02	Aluminum extruded products, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	(X)	17.3	(X)	(NA)	(X)	(NA)	(X)	(X)
			1972									
	ALUMINUM EXTRUDED PRODUCTS											
3354- --	Total	.....	(NA)	(X)	(X)	1,026.4	(X)	(NA)	(X)	(NA)	(X)	(X)
33541 --	Extruded aluminum rod, bar, and other extruded shapes	.....	(NA)	(X)	(X)	781.5	(X)	(NA)	(X)	(NA)	(X)	(X)
	Extruded rod and bar:											
33541 15	Alloys other than 2,000 and 7,000 series	1,000 s. tons	(NA)	163.2	169.0	127.8	203.7	150.5	41.7	31.4	(D)	(D)
33541 18	Alloys in 2,000 and 7,000 series	1,000 s. tons	(NA)	56.3	76.4	54.1					-	
	Other extruded shapes, except tube:											
33541 25	Alloys other than 2,000 and 7,000 series	1,000 s. tons	(NA)	582.3	610.3	517.5	612.5	553.3	37.7	27.5	(D)	(D)
33541 28	Alloys in 2,000 and 7,000 series	1,000 s. tons	(NA)	40.1	39.9	63.3					-	
33541 00	Extruded aluminum rod, bar, and other extruded shapes, n.s.k.	.....	(NA)	(X)	(X)	18.8	(X)	(NA)	(X)	(NA)	(X)	(X)
33542 --	Aluminum tube	.....	(NA)	(X)	(X)	212.4	(X)	(NA)	(X)	(NA)	(X)	(X)
33542 51	Extruded	1,000 s. tons	(NA)	126.3	156.5	132.5	192.7	187.1	9.9	11.6	(D)	(D)
33542 53	Drawn	1,000 s. tons	(NA)	(D)	46.1	66.2					-	
33542 00	Aluminum tube, n.s.k.	.....	(NA)	(X)	(X)	13.7	(X)	(NA)	(X)	(NA)	(X)	(X)
33540 00	Aluminum extruded products, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	(X)	[5]27.6	(X)	(NA)	(X)	(NA)	(X)	(X)
33540 02	Aluminum extruded products, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	(X)	[5]4.9	(X)	(NA)	(X)	(NA)	(X)	(X)

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1977									
3355- -- / 33571 --	ALUMINUM ROLLING AND DRAWING, N.E.C.	1,000 s. tons.	(NA)	2,693.0	1,384.3	1,630.7	(D)	(D)	(D)	(D)	(D)	(D)
3355- --	Aluminum rolling and drawing, n.e.c.	.....	(NA)	2,431.9	1,178.6	1,367.5	(D)	(D)	(D)	(D)	(D)	(D)
33551 -- / 33571 --	Aluminum and aluminum-base alloy wire and cable, including ACSR	.....	(NA)	349.8	290.4	387.5	266.5	356.0	23.9	31.4	(D)	66.5
33551 --	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)	.....	(NA)	88.7	84.7	124.1	73.6	111.1	11.1	13.0	-	4.0
33571 --	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries	.....	(NA)	261.1	205.7	263.3	192.9	244.9	12.8	18.4	(D)	62.5
33551 11 / 33571 11	Bare wire for electrical transmission	1,000 s. tons.	(NA)	146.7	93.9	130.1	(D)	(D)	(D)	(D)	(D)	(D)
33551 11	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		4	42.8	41.8	53.8	(D)	(D)	(D)	(D)	-	(D)
33571 11	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries		16	103.9	53.7	78.3	47.6	70.1	6.1	8.2	(D)	55.7
33551 51 / 33571 51	Bare wire for other than electrical transmission		(NA)	46.8	43.9	77.5	(D)	(D)	(D)	(D)	(Z)	(D)
33551 51	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		10	46.8	43.9	77.5	16.7	35.7	6.5	7.6	-	-
33571 51	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries		6				(D)	(D)	(D)	(D)	(Z)	(D)
33551 62 / 33571 61	Aluminum cable, steel reinforced (ACSR) (gross weight)		(NA)	[8]156.3	[8]151.0	[8]177.8	[8](D)	[8](D)	[8](D)	[8](D)	-	[8](D)
33551 62	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		3	[8](D)	[8](D)	[8](D)	[8](D)	[8](D)	[8](D)	[8](D)	-	[8](D)
33571 61	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries		9	[8](D)	[8](D)	[8](D)	([8])	([8])	([8])	([8])	-	[8]4.6
33551 69 / 33571 65	Other aluminum cable, bare		(NA)	([8])	([8])	([8])	([8])	([8])	([8])	([8])	-	([8])
33551 69	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		1	([8])	([8])	([8])	([8])	([8])	([8])	([8])	-	-
33571 65	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries	1,000 s. tons.	4	([8])	([8])	([8])	([8])	([8])	([8])	([8])	-	([8])
33551 00	Aluminum and aluminum-base alloy wire and cable, including ACSR, n.s.k.	.....	-	-	-	-	-	-	-	-	-	-
33552 --	Rolled aluminum rod, bar (including continuous cast), and structural shapes	.....	(X)	430.3	432.7	530.1	249.7	318.0	183.0	212.0	(D)	(D)
33552 21	Rod and bar: Rolled	1,000 s. tons.	6	243.9	239.2	316.4	143.3	196.6	95.9	119.8	(D)	(D)
33552 25	Continuous cast		5	186.1	193.3	213.3	106.2	121.1	87.1	92.2	(D)	-
33552 31	Rolled structural shapes		-	-	-	-	-	-	-	-	-	-
33552 00	Rolled aluminum rod, bar (including continuous cast), and structural shapes, n.s.k.		(NA)	.3	.2	.3	.2	.3	-	-	-	-
33553 --	Aluminum ingot, produced in aluminum rolling mills:											
33553 11	Aluminum ingot, except extrusion billet[6 7]	1,000 s. tons.	(X)	1,489.6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1977--Con.									
3355- -- 33571 --	ALUMINUM ROLLING AND DRAWING, N.E.C.--Con.											
33554 --	Aluminum extrusion billet, produced in aluminum rolling mills:											
33554 11	Aluminum extrusion billet, rolled[3] [4]	1,000 s. tons.	(X)	419.9	(D)	(D)	(D)	(D)	(D)	(D)	9.1	221.1
33550 02	Aluminum rolling and drawing, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	e3.4	e3.4	3.9	(NA)	(NA)	(NA)	(NA)	(X)	(X)
			1972									
3355- -- 33571 --	ALUMINUM ROLLING AND DRAWING N.E.C		(NA)	3,182.1	1,195.6	684.2	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3355- --	Aluminum rolling and drawing, n.e.c		(NA)	2,867.3	952.1	530.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33551 -- 33571 --	Aluminum and aluminum-base alloy wire and cable, including ACSR		(NA)	445.9	330.6	214.6	(X)	(D)	(X)	(D)	(X)	(X)
33551 --	Made in industry 3355 (aluminum rolling and drawing, n.e.c)		(NA)	141.1	87.1	61.0	(X)	(D)	(X)	(D)	(X)	(X)
33571 --	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries		(NA)	314.8	243.5	153.6	(X)	(D)	(X)	(D)	(X)	(X)
33551 11 33571 11	Bare wire for electrical transmission	1,000 s. tons.	(NA)	171.8	84.0	67.7	43.6	35.6	40.3	32.1	-	64.8
33551 11	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		(NA)	(D)	46.5	34.3	13.6	8.1	32.9	26.2	-	(D)
33571 11	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries		(NA)	(D)	37.4	33.4	30.0	27.5	7.4	5.9	-	(D)
33551 51 33571 51	Bare wire for other than electrical transmission		(NA)	66.2	28.7	31.5	24.8	27.2	3.9	4.3	(D)	(D)
33551 51	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		(NA)	(D)	10.6	12.5	(D)	(D)	(D)	(D)	(D)	(D)
33571 51	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries		(NA)	(D)	18.1	19.0	(D)	(D)	(D)	(D)	-	(D)
33551 62 33571 61	Aluminum cable, steel reinforced (ACSR) (gross weight)		(NA)	170.0	160.7	82.0	152.9	78.7	7.8	3.3	-	(D)
33551 62	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33571 61	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33551 69 33571 65	Other aluminum cable, bare		(NA)	75.9	64.4	34.6	(D)	(D)	(D)	(D)	-	(D)
33551 69	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		(NA)	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33571 65	Made in industry 3357 (nonferrous wiredrawing, etc.) and other industries	1,000 s. tons.	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33551 00	Aluminum and aluminum-base alloy wire and cable, including ACSR, n.s.k		(NA)	(X)	(X)	.7	(X)	(NA)	(X)	(NA)	-	-

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]: Total Quantity[2]	Total Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.									
3355- -- 33571 --	ALUMINUM ROLLING AND DRAWING, N.E.C.--Con.											
33552 --	Rolled aluminum rod, bar (including continuous cast), and structural shapes	.....	(NA)	563.7	510.4	303.0	395.7	231.5	114.7	71.5	-	67.7
	Rod and bar:											
33552 21	Rolled	1,000 s. tons	(NA)	(D)	262.1	175.6	(D)	(D)	(D)	(D)	-	(D)
33552 25	Continuous cast		(NA)	(D)	248.3	127.4	(D)	(D)	(D)	(D)	-	(D)
33552 31	Rolled structural shapes		(NA)	(X)	(X)	.2	(X)	(NA)	(X)	(NA)	(X)	(X)
33552 00	Rolled aluminum rod, bar, and structural shapes, n.s.k.											
33553 --	Aluminum ingot, produced in aluminum rolling mills:											
33553 11	Aluminum ingot, rolled[3] [4]		(NA)	1,739.4	253.1	120.0	(NA)	(NA)	(NA)	(NA)	(D)	-
33554 --	Aluminum extrusion billet, produced in aluminum rolling mills:											
33554 11	Aluminum extrusion billet, rolled[3] [4]	1,000 s. tons	(NA)	423.1	101.5	46.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
			1977									
3356- -- 33573 --	ROLLED AND DRAWN NONFERROUS METALS, EXCEPT COPPER AND ALUMINUM	.....	(NA)	(NA)	(NA)	2,734.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3356- --	Nonferrous rolling and drawing, n.e.c.	.....	(NA)	(NA)	(NA)	2,616.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33561 --	Nickel and nickel-base alloy mill shapes	1,000 s. tons	(NA)	143.8	137.9	873.2	(D)	(D)	(D)	(D)	(D)	(D)
33561 61	Plate, sheet, and strip		11	24.0	23.5	163.6	(D)	(D)	(D)	(D)	(D)	(D)
33561 63	Pipe and tubing		3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33561 69	Rod, bar, and other, except wire		7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33561 65	Nickel-copper alloys, all shapes and forms, except wire		6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33561 00	Nickel and nickel-base alloy mill shapes, n.s.k.		(NA)	e .3	e .3	1.9	(NA)	(NA)	(NA)	(NA)	-	-
33562 --	Titanium mill shapes		(NA)	34.4	30.2	250.7	(D)	(D)	(D)	(D)	(D)	(D)
33562 72	Ingot		6	18.9	16.1	80.7	(D)	(D)	(D)	(D)	(D)	(D)
33562 74	Forging and extrusion billet		6	6.1	5.2	42.2	5.2	42.2	-	-	(D)	(D)
33562 79	Other titanium mill products (sheet, plate, tubing, bar, etc.), except wire	1,000 s. tons	12	9.4	8.9	127.7	(D)	(D)	(D)	(D)	(D)	(D)
33563 --	Precious metal mill shapes, except wire	1,000 troy oz	(NA)	(NA)	(NA)	751.7	(D)	(D)	(D)	(D)	(S)	-
33563 82	Gold		16	(S)	1,860.3	343.7	(D)	(D)	(D)	(D)	(S)	-
22563 84	Silver		15	(S)	57,174.4	273.6	(D)	(D)	(D)	(D)	(S)	-
33563 86	Platinum		8	(S)	(D)	123.9	(D)	(D)	(D)	(D)	(S)	-
33563 89	Other		9	(NA)	(NA)						-	-
33563 00	Precious metal mill shapes, except wire, n.s.k.	1,000 troy oz	(NA)	(NA)	(NA)	10.5	(NA)	(NA)	(NA)	(NA)	-	-

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production[2]	Product shipments including interplant transfers[1]: Total Quantity[2]	Total Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1977--Con.									
	ROLLED AND DRAWN NONFERROUS METALS, EXCEPT COPPER AND ALUMINUM--Con.											
33569 -- 33573 --	All other nonferrous metal mill shapes	1,000 s. tons	(NA)	(NA)	(NA)	780.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33569 43	Magnesium and magnesium-base alloy mill shapes: Extruded shapes, including rod and bar		7	21.3	20.5	48.2	20.5	48.2	-	-	(D)	(D)
33569 44	Other (sheet, plate, etc.), excluding powder and wire		1						-	-	-	-
33569 51	Lead and lead-base alloy mill shapes: Plate, sheet, and strip		11	18.8	18.7	32.8	18.7	32.8	-	-	-	(D)
33569 55	Pipe and tubing, traps, and bends		6	9.5	9.5	6.4	(D)	(D)	(D)	(D)	-	-
33569 59	Other rolled, drawn, or extruded lead products		12	21.6	21.3	65.6	18.7	63.5	-	-	-	(D)
33569 71	Zinc and zinc-base alloy mill shapes (including plate, sheet, strip, rods, bars, pipe, and tubing), except wire		10	104.4	90.9	81.1	(D)	(D)	(D)	(D)	(D)	-
33569 92 33573 11	Other nonferrous metal wire, except copper and aluminum		(NA)	(NA)	(NA)	311.9	(NA)	285.1	(NA)	26.8	(D)	(NA)
33569 92	Made in rolling and drawing, n.e.c., industry (3356)		24	(NA)	(NA)	194.0	(D)	(D)	(D)	(D)	(D)	(D)
33573 11	Made in nonferrous wiredrawing industry (3357) and other industries		16	(NA)	(NA)	117.9	(D)	(D)	(D)	(D)	-	(D)
	Other nonferrous metals--rolled, drawn, and extruded shapes:											
33569 94	Tungsten		7	3.8	2.0	45.3	2.0	45.3	-	-	(D)	-
33569 96	Molybdenum		4	.9	1.1	55.8	(D)	(D)	(D)	(D)	(Z)	(Z)
33569 98	Other nonferrous metals		17	12.9	2.3	117.3	(D)	(D)	(D)	(D)	-	(Z)
33569 00	All other nonferrous metal mill shapes, n.s.k.	1,000 s. tons	(NA)	(NA)	(NA)	15.7	(NA)	(NA)	(NA)	(NA)	-	-
33560 00	Rolled and drawn nonferrous metals, n.e.c., n.s.k., typically for establishments with 20 employees or more in 1977 (see note)	.....	(NA)	(NA)	(NA)	46.0	(NA)	(NA)	(NA)	(NA)	(X)	(X)
33560 02	Rolled and drawn nonferrous metals, n.e.c., n.s.k., typically for establishments with less than 20 employees in 1977 (see note)	.....	(NA)	(NA)	(NA)	32.8	(NA)	(NA)	(NA)	(NA)	(X)	(X)
			1972									
3356- -- 33573 --	ROLLED AND DRAWN NONFERROUS METALS, EXCEPT COPPER AND ALUMINUM	.....	(NA)	(NA)	(NA)	1,135.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3356- --	Nonferrous rolling and drawing, n.e.c.	.....	(NA)	(NA)	(NA)	1,075.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33561 --	Nickel and nickel-base alloy mill shapes	1,000 s. tons	(NA)	(D)	62.7	270.4	(D)	(D)	(D)	(D)	-	(D)
33561 61 33561 63 33561 69 33561 65	Plate, sheet, and strip; Pipe and tubing; Rod, bar, and other, except wire; Nickel-copper alloys, all shapes and forms		(NA)	(D)	62.7	270.4	(D)	(D)	(D)	(D)	-	(D)
33562 --	Titanium mill shapes		(NA)	30.1	22.5	111.1	(D)	(D)	(D)	(D)	(D)	(D)
33562 72	Ingot		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33562 74	Forging and extrusion billet		(NA)	(D)	5.7	25.0	(D)	(D)	(D)	(D)	(D)	-
33562 79	Other titanium mill products (sheet, plate, tubing, bar, etc.)	1,000 s. tons	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1972--Con.									
3356- -- 33573 --	ROLLED AND DRAWN NONFERROUS METALS, EXCEPT COPPER AND ALUMINUM--Con.											
33563 --	Precious metal mill shapes, except wire	1,000 troy oz	(NA)	(NA)	(NA)	364.0	(D)	(D)	(D)	(D)	(D)	(D)
33563 82	Gold	1,000 troy oz	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33563 84	Silver	1,000 troy oz	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33563 86	Platinum	1,000 troy oz	(NA)	(NA)	(NA)	5.9	(D)	(D)	(D)	(D)	-	-
33563 89	Other	1,000 troy oz	(NA)	(D)	1,277.2	58.6	(D)	(D)	(D)	(D)	(D)	(D)
33569 --	All other nonferrous metal mill shapes	1,000 s. tons	(NA)	(NA)	(NA)	344.6	(NA)	315.5	(NA)	29.1	(D)	(D)
	Magnesium and magnesium-base alloy mill shapes:											
33569 43	Extruded shapes, including rod and bar	1,000 s. tons	(NA)	(NA)	(NA)	(D)	(NA)	(D)	(NA)	(D)	-	(D)
33569 44	Other (sheet, plate, etc.), excluding powder and wire	1,000 s. tons	(NA)	(D)	(Z)	(D)	(D)	(D)	(D)	(D)	-	(D)
	Lead and lead-base alloy mill shapes:											
33569 51	Plate, sheet, and strip	1,000 s. tons	(NA)	26.8	26.1	12.7	(D)	(D)	(D)	(D)	-	-
33569 55	Pipe and tubing, traps, and bends	1,000 s. tons	(NA)	(D)	13.7	12.6	(D)	(D)	(D)	(D)	(D)	-
33569 59	Other rolled, drawn, or extruded lead products	1,000 s. tons	(NA)	18.6	18.6	15.3	(D)	(D)	(D)	(D)	-	-
33569 71	Zinc and zinc-base alloy mill shapes (including plate, sheet, strip, rods, bars, pipe, and tubing), except wire	1,000 s. tons	(NA)	(D)	(D)	(D)	(D)	(D)	-	-	(D)	-
33569 92 33573 11	Other nonferrous metal wire, except copper and aluminum	1,000 s. tons	(NA)	(NA)	(NA)	120.9	(NA)	(D)	(NA)	(D)	(D)	-
33569 92	Made in rolling and drawing, n.e.c., industry (3356)	1,000 s. tons	(NA)	(NA)	(NA)	61.4	(NA)	(D)	(NA)	(D)	-	-
33573 11	Made in nonferrous wiredrawing industry (3357) and other industries	1,000 s. tons	(NA)	(NA)	(NA)	59.5	(NA)	(D)	(NA)	(D)	(NA)	-
	Other nonferrous metals--rolled, drawn and extruded shapes:											
33569 94	Tungsten	1,000 s. tons	(NA)	(NA)	(NA)	127.9	(NA)	(D)	(NA)	(D)	-	(NA)
33569 96 33569 98	Molybdenum; Other nonferrous metals	1,000 s. tons										
33560 00	Rolled and drawn nonferrous metals, n.e.c., n.s.k., typically for establishments with 20 employees or more in 1972 (see note)	.....	(NA)	(NA)	(X)	39.3	(NA)	(NA)	(X)	(NA)	(NA)	(NA)
33560 02	Rolled and drawn nonferrous metals, n.e.c., n.s.k., typically for establishments with less than 20 employees in 1972 (see note)	.....	(NA)	(NA)	(X)	5.7	(NA)	(NA)	(X)	(NA)	(NA)	(NA)

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1977									
3357- - 33551 - 33569 22 34965 -	NONFERROUS WIRE DRAWING AND INSULATING	.....	(NA)	(NA)	(NA)	6,844.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3357- -	Nonferrous wire drawing and insulating	.....	(NA)	(NA)	(NA)	6,460.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33551 -	Aluminum and aluminum-base alloy wire and cable made in aluminum rolling mills (industries 3353, 3354 and 3355)	.....	(NA)	88.7	84.7	124.2	73.5	111.2	11.1	13.0	-	(NA)
33569 22	Other bare nonferrous metal wire made in nonferrous metal rolling and drawing, n.e.c. (industry 3356)	.....	24	(NA)	(NA)	194.0	(D)	(D)	(D)	(D)	(D)	(D)
34965 -	Nonferrous wire cloth and other woven wire products made in miscellaneous fabricated wire products, n.e.c. (industry 3496)	.....	(NA)	(X)	(NA)	66.1	(X)	(X)	(X)	(X)	(X)	(X)
33571 - 33551 -	Aluminum and aluminum-base alloy wire and cable, including ACSR	1,000 s. tons.	(NA)	349.7	290.3	386.8	266.4	355.4	23.9	31.4	(D)	74.1
33571 -	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries		(NA)	261.1	205.7	263.4	192.9	244.4	12.8	18.4	(D)	68.5
33551 -	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		(NA)	88.6	84.6	124.2	73.5	111.0	11.1	13.0	-	4.0
33571 11 33551 11	Bare wire for electrical transmission		(NA)	146.7	93.9	130.1	(D)	(D)	(D)	(D)	-	(D)
33571 11	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries		16	103.9	53.7	78.3	47.6	70.1	6.1	8.2	(D)	55.7
33551 11	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		4	42.8	41.8	53.8	(D)	(D)	(D)	(D)	-	(D)
33571 51 33551 51	Bare wire for other than electrical transmission		(NA)	46.8	43.9	77.5	(D)	(D)	(D)	(D)	(Z)	(D)
33571 51	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries		6	23.6	20.7	34.2	(D)	(D)	(D)	(D)	(Z)	(D)
33551 51	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		10	23.2	23.2	43.3	16.7	35.7	6.5	7.6	-	-
33571 61 33551 62	Aluminum cable, steel reinforced (ACSR) (gross weight)		(NA)	131.9	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)
33571 61	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries		9	[7]133.6	[7]131.3	[7]150.8	[7](D)	[7](D)	[7](D)	[7](D)	-	[7]4.6
33551 62	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)		2	22.6	(D)	26.9	(D)	26.9	-	-	-	(D)
33571 65 33551 69	Other aluminum cable, bare		(NA)	24.4	15.8	19.3	13.2	16.6	2.6	2.7	-	(D)
33571 65	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries		4	([7])	([7])	([7])	([7])	([7])	([7])	([7])	-	([7])
33551 69	Made in industry 3355 (aluminum rolling and drawing, n.e.c.		(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
33572 -	Copper and copper-base alloy wire, including strand and cable, bare and tinned, for electrical transmission[3]		(NA)	405.6	280.0	496.8	164.1	327.3	113.9	169.5	92.2	107.3
33572 11	Bare wire, unalloyed, for electrical transmission		27	201.1	133.0	230.3	90.5	163.7	68.3	102.3	79.8	78.7
33572 21	Electrical wire rod		7	82.4	25.8	35.7						
33572 51	Bare wire, alloyed, for electrical transmission	1,000 s. tons.	10	14.6	**12.5	40.1	7.8	29.4	4.7	10.7		

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products if this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]: Total Quantity[2]	Total Value (million dollars)	Shipments to other companies Quantity[2]	Shipments to other companies Value (million dollars)	Interplant transfers Quantity[2]	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1977--Con.									
3357- -- 33551 -- 33569 22 34965 --	NONFERROUS WIRE DRAWING AND INSULATING--Con.											
33572 --	Copper and copper-base alloy wire, including strand and cable, bare and tinned, for electrical transmission--Con.											
33572 71	Strand and cable, bare, for electrical transmission.....	1,000 s. tons.	19	107.6	**106.7	190.7	65.8	134.2	40.9	56.5	12.4	28.6
33573 11 33569 92	Other bare nonferrous metal wire..		(NA)	(NA)	(NA)	295.4	(NA)	285.1	(NA)	26.8	(D)	(NA)
33573 11	Made in nonferrous wire drawing (industry 3357) and other industries.....		16	(NA)	(NA)	117.9	(D)	(D)	(D)	(D)	-	(D)
33569 92	Made in rolling and drawing, n.e.c. (industry 3356).....	1,000 s. tons.	24	(NA)	(NA)	194.0	(D)	(D)	(D)	(D)	(D)	(D)
33575 -- 34965 --	Nonferrous wire cloth and other woven nonferrous wire products...	.....	(NA)	(X)	(NA)	162.3	(X)	(X)	(X)	(X)	(X)	(X)
33575 --	Made in industry 3357 (nonferrous wire drawing, etc.)..	.....	(NA)	(X)	(NA)	94.5	(X)	(X)	(X)	(X)	(X)	(X)
34965 --	Made in industry 3496 (miscellaneous fabricated wire products) and other industries..	.....	(NA)	(X)	(NA)	66.1	(X)	(X)	(X)	(X)	(X)	(X)
33575 25 34965 17	Insect wire screening.....	Mil. sq. ft.	7	(X)	**549.2	40.8	(X)	(X)	(X)	(X)	(X)	(X)
33575 25	Made in industry 3357.....		4	(X)	287.5	19.8	(X)	(X)	(X)	(X)	(X)	(X)
34965 17	Made in industry 3496 and other industries.....		4	(X)	261.7	21.8	(X)	(X)	(X)	(X)	(X)	(X)
	Paper machine wire cloth (fourdrinier and cylinder):											
33575 53 34965 53	Copper.....		6	(X)	(S)	(D)	(X)	(X)	(X)	(X)	(X)	(X)
33575 53	Made in industry 3357.....		3	(X)	(D)	(D)	(X)	(X)	(X)	(X)	(X)	(X)
34965 53	Made in industry 3496 and other industries.....		4	(X)	(D)	(D)	(X)	(X)	(X)	(X)	(X)	(X)
33575 59 34965 59	All other nonferrous metal....		6	(X)	(S)	19.5	(X)	(X)	(X)	(X)	(X)	(X)
33575 65 34965 65	Industrial wire cloth, nonferrous.....	Mil. sq. ft.	19	(X)	**10.9	31.0	(X)	(X)	(X)	(X)	(X)	(X)
			1972									
3357- -- 33551 -- 33569 22 34955 --	NONFERROUS WIRE DRAWING AND INSULATING.....	.....	(X)	(NA)	(NA)	4,396.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3357- --	Nonferrous wire drawing and insulating.....	.....	(X)	(NA)	(NA)	4,223.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33551 --	Aluminum and aluminum-base alloy wire and cable made in aluminum rolling mills (industries 3353, 3354 and 3355).....	.....	(X)	(NA)	(NA)	61.0	(D)	(D)	(D)	(D)	(D)	(D)
33569 22	Other bare nonferrous metal wire made in nonferrous metal rolling and drawing, n.e.c. (industry 3356).....	.....	(X)	(NA)	(NA)	61.4	(D)	(D)	(D)	(D)	-	-
34965 --	Nonferrous wire cloth and other woven wire products made in miscellaneous fabricated wire products (industry 3496).....	.....	(X)	(NA)	(NA)	49.8	(X)	(X)	(X)	(X)	(X)	(X)

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]						Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
					Total		Shipments to other companies		Interplant transfers			
					Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)		
			1972--Con.									
3357 -- 33551 -- 33569 22 34965 --	NONFERROUS WIRE DRAWING AND INSULATING--Con.											
33571 -- 33551 --	Aluminum and aluminum-base alloy wire and cable, including ACSR...	1,000 s. tons.	(X)	455.9	330.6	214.0	(X)	(D)	(X)	(D)	(D)	(D)
33571 --	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries.....		(X)	314.8	243.5	153.0	(D)	(D)	(D)	(D)	(D)	(D)
33551 --	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)...		(X)	141.1	87.1	61.0	(X)	(D)	(X)	(D)	(D)	(D)
33571 11 33551 11	Bare wire for electrical transmission.....		(X)	143.8	46.8	66.5	36.5	34.4	40.3	32.1	64.8	-
33571 11	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries.....		(X)	(D)	35.3	32.2	27.9	26.3	7.4	5.9	(D)	-
33551 11	Made in industry 3355 (aluminum rolling and drawing, n.e.c.)...		(X)	(D)	41.5	34.3	8.6	8.1	32.9	26.2	(D)	-
33571 51 33551 51	Bare wire for other than electrical transmission.....		(X)	66.2	28.7	31.5	24.8	27.2	3.9	4.3	(D)	(D)
33571 51	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries.....		(X)	(D)	18.1	19.0	(D)	(D)	(D)	(D)	(D)	-
33551 51	Made in industry 3355 (aluminum rolling and drawing, n.e.c.).....		(X)	(D)	10.6	12.5	(D)	(D)	(D)	(D)	(D)	(D)
33571 61 33571 62	Aluminum cable, steel reinforced (ACSR) (gross weight).....		(X)	170.0	160.7	82.0	152.9	78.7	7.8	3.3	(D)	(D)
33571 61	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries.....		(X)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33551 62	Made in industry 3355 (aluminum rolling and drawing, n.e.c.).....		(X)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33571 65 33551 69	Other aluminum cable, bare.....		(X)	75.9	64.4	34.6	(D)	(D)	(D)	(D)	(D)	-
33571 65	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries.....		(X)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
33551 69	Made in industry 3355 (aluminum rolling and drawing, n.e.c.).....	1,000 s. tons.	(X)	(D)	(D)	(D)	(D)	(D)	-	-	-	-
33571 00	Aluminum and aluminum-base alloy wire, including ACSR, n.s.k....	.....	(X)	(X)	(X)	.7	(X)	(NA)	(X)	(NA)	-	-
33572 --	Copper and copper-base alloy wire, including strand and cable, bare and tinned, for electrical transmission.....	.....	(X)	(X)	(D)	353.1	(X)	208.1	(X)	145.0	(X)	(X)
33572 11	Bare wire, unalloyed, for electrical transmission.....	1,000 s. tons.	(X)	223.2	143.6	178.5	83.1	110.5	60.5	68.0	(D)	(D)
33572 21	Electrical wire rod.....		(X)	101.5	(D)	(D)	(D)	(D)	(D)	(D)	18.7	42.3
33572 51	Bare wire, alloyed, for electrical transmission.....		(X)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33572 71	Strand and cable, bare, for electrical transmission.....	1,000 s. tons.	(X)	136.6	76.2	107.3	47.8	63.3	28.4	44.0	(D)	(D)
33572 00	Copper and copper-base alloy wire, including strand and cable, bare and tinned, for electrical transmission, n.s.k.	.....	(X)	(X)	(X)	4.5	(X)	(NA)	(X)	(NA)	(X)	(X)
33573 11 33569 92	Other bare nonferrous metal wire, except insulated.....	.....	(X)	(NA)	(NA)	120.9	(D)	(D)	(D)	(D)	(D)	-
33573 11	Made in industry 3357 (nonferrous wire drawing, etc.) and other industries.....	.....	(X)	(NA)	(NA)	59.5	(D)	(D)	(D)	(D)	(D)	-
33569 92	Made in industry 3356 (rolling and drawing, n.e.c.....	.....	(X)	(NA)	(NA)	61.4	(D)	(D)	(D)	(D)	-	-

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments including interplant transfers[1]: Total Quantity	Total Value (million dollars)	Shipments to other companies Quantity	Shipments to other companies Value (million dollars)	Interplant transfers Quantity	Interplant transfers Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in manufacture of other products
			1972--Con.									
3357-- 33551-- 33569 22 34965--	NONFERROUS WIRE DRAWING AND INSULATING--Con.											
33575-- 34965--	Nonferrous wire cloth and other woven nonferrous wire products...	.....	(X)	(NA)	(NA)	83.7	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33575--	Made in industry 3357 (nonferrous wire drawing, etc.).....	.....	(X)	(NA)	(NA)	33.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
34965--	Made in industry 3496 (miscellaneous fabricated wire products) and other industries.....	.....	(X)	(NA)	(NA)	49.8	(X)	(X)	(X)	(X)	(X)	(X)
	Insect wire screening:											
33575 25 34965 15	Aluminum.....	Mil. sq. ft.	(X)	(NA)	510.3	26.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33575 25	Made in industry 3357.....		(X)	(NA)	312.3	14.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
34965 15	Made in industry 3496 and other industries.....		(X)	(NA)	198.0	12.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33575 29 34965 19	All other nonferrous metal....		(X)	(NA)	(NA)	.7	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	Paper machine wire cloth (Fourdrinier and cylinder):											
33575 53 34965 53	Copper.....		(X)	(NA)	17.3	35.4	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33575 53	Made in industry 3357.....		(X)	(NA)	7.5	16.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
34965 53	Made in industry 3496 and other industries.....		(X)	(NA)	9.8	19.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33575 59 34965 59	All other nonferrous metal..		(X)	(NA)	1.9	5.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33575 65 34965 65	Industrial wire cloth, nonferrous.....	Mil. sq. ft.	(X)	(NA)	10.2	11.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
33575 00 34965 00	Nonferrous wire cloth and other woven nonferrous wire products, n.s.k.....	.....	(X)	(NA)	(X)	3.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

1977 product code	Product	1977: Number of companies with shipments of $100,000 or more	1977: Product shipments including interplant transfers	1972, product shipments including interplant transfers
3357A --	Electronic wire and cable:			
	As reported in census of manufactures.....	80	478.9	(9)
	As reported in Current Industrial Reports MA-33L, Insulated Wire and Cable[7].....	(NA)	474.1	(9)
3357B --	Telephone and telegraph wire and cable:			
	As reported in census of manufactures.....	31	1,600.2	9 1,316.0
	As reported in Current Industrial Reports MA-33L, Insulated Wire and Cable[7].....	(NA)	1,619.8	9 1,250.6
33578 --	Power wire and cable:			
	As reported in census of manufactures.....	41	705.9	499.7
	As reported in Current Industrial Reports MA-33L, Insulated Wire and Cable.....	(NA)	695.4	478.0
3357C --	Control and signal wire and cable:			
	As reported in census of manufactures.....	34	128.3	(10)
	As reported in Current Industrial Reports MA-33L, Insulated Wire and Cable[7].....	(NA)	125.2	(10)
3357D --	Building wire and cable:			
	As reported in census of manufactures.....	35	890.2	(10)
	As reported in Current Industrial Reports MA-33L, Insulated Wire and Cable[7].....	(NA)	875.4	(10)
3357E --	Other insulated wire and cable, including automotive:			
	As reported in census of manufactures.....	54	431.7	10 956.5
	As reported in Current Industrial Reports MA-33L, Insulated Wire and Cable[7].....	(NA)	421.4	10 898.3

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, product shipments including interplant transfers
		Number of companies with shipments of $100,000 or more[13]	Product shipments including interplant transfers	
33576 -- 36996 --	Apparatus wire and cordage and flexible cord sets:			
	As reported in census of manufactures	(NA)	577.8	374.4
33576 --	Made in industry 3357 (nonferrous wire drawing, etc.)	45	447.8	262.9
36996 --	Made in industry 3699 (electrical products, n.e.c.) and other industries	53	130.0	
	As reported in Current Industrial Reports MA-33L, Insulated Wire and Cable[11]	(NA)	525.6	341.9
33577 --	Magnet wire:			
	As reported in census of manufactures	29	754.4	548.8
	As reported in Current Industrial Reports MA-33L, Insulated Wire and Cable[12]	(NA)	748.1	516.3
33570 00	Nonferrous wire drawing and insulating, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	18.2	35.7
33570 02	Nonferrous wire drawing and insulating, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	32.2	4.8

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more[13]	Value of product shipments[1] (million dollars)	
	METAL HEAT TREATING			
3398- --	Total	[2]326.9	704.1	462.9
33980 --	Heat treating of metal for the trade:			
33980 11	Heat treating, pickling, annealing, etc., of for the trade	[2]326.9	704.1	462.9

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	PRIMARY METAL PRODUCTS, N.E.C.						
3399- --	Total	...	(NA)	(X)	967.5	(X)	416.5
33991 --	Metal powders, paste, and flakes	...	(NA)	(X)	702.2	(X)	322.7
33991 11	Aluminum and aluminum-base alloy	Million lbs.	15	132.0	109.9	129.2	86.5
33991 33	Copper and copper-base alloy	↕	15	60.1	69.6	49.4	36.7
33991 55	Iron and steel	Million lbs.	31	419.2	141.3	341.4	60.5
33991 98	Other nonferrous powders	...	41	(NA)	369.9	(X)	112.2
33991 00	Metal powders, paste, and flakes, n.s.k.	...	(NA)	(X)	11.5	(X)	26.8
33992 --	Other primary metal products	...	(NA)	(X)	144.7	(X)	93.8
33992 11	Nonferrous nails, brads, tacks, and staples	1,000 s. tons.	10	(S)	18.8	7.9	9.7
33992 98	Other primary metal products, n.e.c.	...	45	(X)	123.0	(X)	81.3
33992 00	Other primary metal products, n.s.k.	...	(NA)	(X)	2.9	(X)	2.8
33990 00	Primary metal products, n.e.c., n.s.k., typically for establishments with 20 employees or more (see note)	...	(NA)	(X)	60.9	(X)	([14])
33990 02	Primary metal products, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)	...	(NA)	(X)	59.7	(X)	([14])

Footnotes are on next page.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002," In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. [e]Estimated. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Includes estimated n.s.k. data.

[4]Detailed monthly data are also published in Current Industrial Reports M33-2, Aluminum Ingot and Mill Products.

[5]These 1972 figures also include values not specified by kind for industries 3353, Aluminum Sheet, Plate, and Foil, and 3355, Aluminum Rolling and Drawing, N.E.C.

[6]Most of the aluminum ingot and billet alloys produced by rolling and drawing mills represents duplication of tonnage reported by aluminum refiners (industries 3334 and 3341). Aluminum produced in rolling mills is primarily made from ingot produced in aluminum refining and reduction plants.

[7]Represents aluminum ingot and billet alloys made primarily by establishments classified in industries 3353, 3354, and 3355, aluminum rolling mills. Comparable shipments for primary aluminum (33347 and 33348) and secondary aluminum (33417 and 33418) are as follows:

Item	Total shipments		Commercial		Interplant transfers	
	Quantity (1,000 s. tons)	Value (million dollars)	Quantity (1,000 s. tons)	Value (million dollars)	Quantity (1,000 (s. tons)	Value (million dollars)
	1977					
Aluminum ingot:						
Primary (33347)	3,791.3	3,716.7	986.6	980.1	2,804.7	2,736.6
Secondary (33417)	1,073.5	978.3	887.2	(D)	186.3	(D)
Aluminum extrusion billet:						
Primary (33348)	566.6	570.0	272.0	284.6	294.6	285.4
Secondary (33418)	115.4	112.4	66.3	65.7	49.1	46.7
	1972					
Aluminum ingot:						
Primary (33347)	3,240.0	1,513.8	1,279.9	586.7	1,960.1	927.1
Secondary (33417)	671.3	336.9	(D)	(D)	(D)	(D)
Aluminum extrusion billet:						
Primary (33348)	542.4	240.7	336.9	155.7	205.5	85.0
Secondary (33418)	70.8	32.1	(D)	(D)	(D)	(D)

[8]For 1977, product code 33471 65 was included with product code 33571 61, and product code 33551 69 was combined with 33551 62.

[9]For 1972, product codes 3357A and 3357B were combined.

[10]For 1972, product codes 3357C, 3357D, and 3357E were combined.

[11]Detail is shown in table 6a-2.

[12]Detail is shown in table 6a-3.

[13]Preliminary report excluded administrative records from company count.

[14]Value data are not available because of revisions to industry in 1972.

Table 6a-2. **Products and Product Classes — Shipments of Insulated Wire and Cable, Except Magnet Wire: 1977 and 1972**

SIC based product code	Product	Number of companies reporting total shipments of $100,000 or more	Total shipments including interplant transfers: Quantity (1,000 lb) Copper content	Total shipments including interplant transfers: Quantity (1,000 lb) Aluminum content[1]	Total shipments including interplant transfers: Value ($1,000)	Value of shipments to other companies ($1,000)	Value of transfers to other plants of the same company ($1,000)
		1977					
3357A --	Electronic wire and cable	(NA)	99,596	(D)	474,073	466,741	7,332
	Coaxial cable, armored or unarmored:						
3357A 10	Rigid	1	11,419	(NA)	r60,138	(D)	(D)
33571 12	Semiflexible	15					
	Flexible:						
3357A 13	135 C and over	12	r1,208	(NA)	9,712	(D)	-
3357A 14	Under 135 C	28	10,692	(NA)	61,233	(D)	(D)
3357A 22	Antenna lead-in wire	12	13,549	(NA)	27,262	(D)	(D)
	Hook-up wire (single conductor, shielded and nonshielded):						
3357A 23	135 C and over temperature rating	22	7,740	(NA)	84,361	(D)	(D)
3357A 25	Under 135 C temperature rating	45	17,750	(NA)	48,417	r43,398	1,019
	Multiconductor electronic wire and cable (shielded and nonshielded):						
3357A 18	Flat and ribbon cable	20	3,073	(NA)	r23,557	(D)	(D)
3357A 19	Other multiconductor electronic wire and cable	52	34,165	(NA)	155,393	153,795	5,598
3357B --	Telephone and telegraph wire and cable	(NA)	r736,014	(D)	1,619,805	1,517,431	102,374
3357B 41	Jumper and distributing frame wire, including bank, hand-formed, push-back	15	12,353	(NA)	31,554	(D)	(D)
3357B 43	Station wire and cable	14	18,602	(NA)	58,449	(D)	(D)
3357B 72	Switchboard wire and cable (except telephone cord sets and cordage)	9	(D)	(NA)	(D)	(D)	(D)
3357B 73	Telephone cord sets and cordage	10	(D)	(NA)	(D)	(D)	(D)
3357B 52	Inside wiring cable	16	33,727	(NA)	r65,278	(D)	(D)
3357B 55	Drop and bridle and duct wire and cable	13	5,513	(NA)	35,300	(D)	(D)
3357B 68	Rural and urban distribution wire and cable	11	21,539	(NA)	57,750	(D)	-
	Paper and pulp insulated:						
3357B 76	Lead covered telephone and telegraph cable, excluding coaxial	3	(D)	(NA)	(D)	(D)	(D)
3357B 77	Polyethylene covered telephone and telegraph cable, excluding coaxial	8	219,015	(NA)	r366,122	(D)	(D)
	Thermoplastic insulated:						
3357B 81	Lead covered telephone and telegraph cable, excluding coaxial	1	(D)	(NA)	(D)	(D)	(D)
3357B 82	Polyethylene covered telephone and telegraph cable, excluding coaxial	14	r360,143	(NA)	736,479	(D)	(D)
33578 --	Power wire and cable[1]	(NA)	232,651	150,367	695,424	629,435	65,989
33578 01	Mineral insulated cable, including asbestos and varnished cloth	6	1,797	(D)	5,765	(2)	(2)
	Paper insulated cable (all voltages):						
33578 04	Solid	4	8,940	-	19,444	(2)	(2)
33578 06	Pipe and other	4	3,744	(D)	14,923	14,923	-
	Plastics and rubber insulated:						
	Under 601 volts	(NA)	105,047	98,782	309,772	2303,386	331,595
33578 08	Portable welding cable	19	r25,854	(D)	r37,305	(D)	(D)
	Portable molded and rubber sheathed:						
33578 10	Cord	6	5,874	-	12,727	(D)	(D)
33578 11	Cable (mine trailing cable)	9	16,072	(D)	40,871	(D)	(D)
33578 12	Portable nonmolded cable	7		-			
33578 17	Underground distribution cable (UD, URD)	12	17,056	82,242	127,723	(D)	(D)
33578 19	Thermoplastic insulated cable	27		1,895			
	Thermoset insulated:						
33578 20	Armored, rubber and cross-linked	10	r8,313	915	r22,649	(D)	(D)
33578 21	Unarmored, rubber	10	r14,397	(D)	r26,545	(D)	(D)
33578 22	Unarmored, cross-linked	12	16,852	(D)	41,952	(D)	(D)
	601 volts and higher	(NA)	113,123	50,162	345,520	311,126	34,394
33578 32	Portable molded rubber sheathed cable (mine shovel cable)	9	7,856	(D)	22,989	(D)	(D)
33578 35	Portable nonmolded cable	2	(D)	-	(D)	(D)	(D)
33578 37	Underground distribution cable (UD, URD)	12	19,106	19,423	r75,334	(D)	(D)
33578 39	Thermoplastic insulated cable	16	r7,563	r6,188	r21,067	(D)	(D)
	Thermoset insulated cable:						
	601 volts to 15 kv:						
33578 41	Armored, rubber and cross-linked	13	10,681	(D)	47,654	(D)	(D)
33578 42	Unarmored, rubber	14	r22,535	1,578	r62,884	(D)	(D)
33578 43	Unarmored, cross-linked	16	33,448	12,093	79,238	(D)	(D)
	Over 15 kv:						
33578 46	Rubber	8	(D)	(D)	(D)	119,986	5,181
33578 47	Cross-linked	10	9,873	5,322	r28,740	(D)	(D)
3357C -- 3357D -- 3357E --	Other insulated wire and cable, n.e.c.[1]	(NA)	828,501	164,987	1,422,030	1,207,368	214,662
3357C --	Control and signal wire and cable	(NA)	r36,154	(3)	r125,167	119,986	5,181
3357C 11	Signal wire and cable	16	7,374	-	35,008	(D)	(D)
	Control wire and cable, excluding elevator cable:						
3357C 13	Thermoset insulated, including rubber and cross-linked polyethylene	17	r14,279	-	r52,446	(D)	(D)
3357C 14	Thermoplastic insulated	25	14,501	(3)	37,713	(D)	(D)

See footnotes at end of table.

Table 6a-2. **Products and Product Classes — Shipments of Insulated Wire and Cable, Except Magnet Wire: 1977 and 1972** — Con.

SIC based product code	Product	Number of companies reporting total shipments of $100,000 or more	Total shipments including interplant transfers			Value of shipments to other companies ($1,000)	Value of transfers to other plants of the same company ($1,000)
			Quantity (1,000 lb)		Value ($1,000)		
			Copper content	Aluminum content[1]			
		1977--Con.					
3357D --	Building wire and cable	(NA)	658,555	[3]82,829	875,429	735,210	140,219
	Building wire and cable having underwriters' labels (except varnished cambric insulated and service cable):						
	Thermoset insulated:						
3357D 36	Rubber (R, RHH RHW, etc.)	9	12,374	(D)	18,274	(D)	(D)
3357D 37	Cross-linked polyethylene (XHHW)	22	26,028	13,414	r40,990	37,945	3,045
3357D 38	Cross-linked polyethylene (USE)	20	13,842	12,337	31,757	(D)	(D)
	Thermoplastic insulated:						
3357D 40	Flame-retardant nylon (THHN, THWN)	20	96,794	(D)	127,645	(D)	(D)
3357D 41	Moisture resistant (TW)	16	39,891	-	42,907	(D)	(D)
3357D 48	Moisture and heat resistant (THW)	26	167,631	29,358	199,271	(D)	(D)
3357D 51	Service entrance cable (SER, SEU, ASE)	18	8,815	29,231	50,688	44,652	6,036
	Nonmetallic branch-circuit and underground feeder:						
3357D 54	Type NM	19	258,552	(D)	305,054	(D)	(D)
3357D 55	Type UF and NMC (corrosion resistant)	20	23,937	(D)	33,829	(D)	(D)
3357D 57	Metallic armored cable (all AC types)	6	7,874	(D)	21,437	(D)	(D)
3357D 58	Other building wire and cable	7	2,817	(D)	3,577	(D)	(D)
3357E --	Other insulated wire and cable	(NA)	r133,792	82,158	r421,434	r352,172	r69,262
	Automotive:						
3357E 72	Bulk automotive primary wire	15	r50,694	-	r69,690	(D)	(D)
3357E 74	Bulk battery cable	9	7,083	-	10,001	(D)	(D)
3357E 76	Bulk ignition wire	10	3,702	-	23,097	(D)	(D)
3357E 78	Other automotive wire and cable	13	28,754	(D)	r88,847	(D)	(D)
3357E 15	Elevator hatch and traveling cable	6	2,074	-	r5,115	(D)	(D)
	Weather proof and service drop cable:						
3357E 34	Thermoset insulated	13	2,127	34,254	38,036	(D)	(D)
3357E 35	Thermoplastic insulated	15	5,597	47,721	57,803	(D)	(D)
	Airframe, shipboard, and ground support cable, excluding coaxial cable and ignition cable:						
3357E 79	Airframe and missile, including ground support cable	13	r2,182	(D)	r15,668	(D)	(D)
3357E 89	Shipboard cable	11	r 8,155	-	r29,426	(D)	(D)
3357E 98	Other insulated or covered wire and cable, n.e.c.	29	23,424	(D)	83,751	r74,941	8,810
33576 -- 36996 --	Apparatus wire and cordage[4]	(NA)	r208,809	(D)	r525,628	r440,298	85,330
	Flexible cordage:						
33576 13	Thermoset insulated	19	23,337	(NA)	59,389	(D)	(D)
33576 15	Thermoplastic insulated	24	47,630	(NA)	126,952	(D)	(D)
33576 21	Appliance fixture wire	22	18,554	(NA)	48,507	37,618	10,889
	Appliance wiring material 14 gauge and larger, including motor lead and transformer lead wire:						
33576 23	Thermoset insulated	20	13,945	(NA)	37,628	26,984	10,644
33576 24	Thermoplastic insulated	30	40,781	(NA)	73,217	59,723	13,494
33576 28	Submersible pump cable	11	3,138	(NA)	6,318	(D)	(D)
33576 30	Power supply and extension cords	18	r26,067	(NA)	r71,683	(D)	(D)
33576 31	Appliance harness	13	r12,624	(NA)	r38,196	(D)	(D)
33576 29	Other apparatus wire and cordage, including machine tool wire	20	22,733	(NA)	63,738	48,994	14,744
		1972					
3357A 3357B	Electronic wire and cable Telephone and telegraph wire and cable	57	765,705	7,618	1,250,555	1,221,451	29,104
33578	Power wire and cable	40	262,236	142,096	477,954	446,607	31,347
3357C 3357D 3357E	Control and signal wire and cable Building wire and cable Other insulated wire and cable	63	737,252	193,555	898,317	784,752	113,565
33576	Apparatus wire and cordage	50	169,014	(D)	341,917	297,699	44,218

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. r Revised.

[1] Data on aluminum content are available for individual products in product classes 33578 and 3357C, D, and E only. For the other product classes, aluminum content data were collected only at total level.

[2] Data for "mineral insulated cable" and "paper insulated cable, solid" were included with "plastics and rubber insulated cable, under 601 volts."

[3] Data for "control and signal wire and cable, thermoplastic insulated" were included with "building wire and cable" to avoid disclosing operations of individual companies.

[4] Data are limited to shipments by all known establishments which insulate wire or cable and establishments operated by 50 largest producers of appliance wire and cord and flexible cord sets from purchased insulated wire (as measured by dollar value of shipments in 1963). However, undercoverage of such wire and cord sets is probably less than 3 percent at product class level.

Table 6a-3. **Products and Product Classes—Shipments of Magnet Wire: 1977 and 1972**

1977 product code	Product	Number of companies[1]		Shipments, including interplant transfers						Shipments to other companies (1,000 lb gross weight)		Transfers to other plants of the same company (1,000 lb gr. wt.)	
		Gross weight (1,000 lb)					Value ($1,000)						
		Copper	Aluminum	Total	Copper	Aluminum	Total	Copper	Aluminum	Copper	Aluminum	Copper	Aluminum
							1977						
33577 --	Magnet wire	(NA)	(NA)	593,292	521,081	72,211	748,065	635,086	112,979	397,216	42,926	123,865	29,285
33577 03	Insulated magnet sheet, strip, and foil	1	2	(2)	(2)	(2)	(2)	(2)	(2)	(2)	-	-	-
33577 07	Film coated, 45 AWG and finer (all classes)	6	-	127	127	-	2,000	2,000	-	(3)	-	(3)	-
	Film coated (44 to 7 AWG and larger)	(NA)	(NA)	r538,745	r470,114	r68,631	r680,958	r573,022	r107,936	358,381		r111,733	
	Class 105	(NA)	(NA)	96,228	74,498	21,730	138,045	105,955	r32,090	51,730		r22,768	
33577 11	7 AWG and larger round (also all square and rectangle)	6	4	5,343	3,996	1,347	6,512	4,478	2,034				
33577 13	8 to 21 AWG inclusive	12	8		38,074			45,143		31,654		r11,416	
33577 15	22 to 32 AWG inclusive	14	5	90,885	13,890	20,383	131,533	16,850	30,056	7,443		6,447	
33577 17	33 to 44 AWG inclusive	13	1		17,538			39,484		12,633		4,905	
	Class 130	(NA)	(NA)	85,140	80,059	5,081	112,548	104,357	8,191	70,206		13,770	
33577 21	7 AWG and larger round (also all square and rectangle)	4	-										
33577 23	8 to 21 AWG inclusive	12	4	77,915	28,483	-	r94,417	29,970	-	23,875		r4,608	
33577 25	22 to 32 AWG inclusive	15	5		44,105	5,327		55,854	8,191				
33577 28	33 to 44 AWG inclusive	14	-	11,388	11,388	-	23,554	23,554	-	46,331		r9,162	
	Class 155	(NA)	(NA)	r106,405	r95,125	r11,280	r127,433	r107,956	r19,477	70,568		r24,557	
33577 32	7 AWG and larger round (also all square and rectangle)	1	-										
33577 34	8 to 21 AWG inclusive	11	7	r65,052	r55,117	9,935	r73,723	r56,767	16,956				
33577 37	22 to 32 AWG inclusive	16	6	r38,988	r37,643	1,345	r47,712	r45,191	r2,521	70,568		r24,557	
33577 38	33 to 44 AWG inclusive	13	-	2,365	2,365	-	5,998	5,998					
	Class 180	(NA)	(NA)	89,321	74,628	14,693	108,735	85,814	22,921	47,350		27,278	
33577 41	7 AWG and larger round (also all square and rectangle)	5	4										
33577 43	8 to 21 AWG inclusive	10	5	88,313	64,389	14,693	105,782	70,877	22,921				
33577 45	22 to 32 AWG inclusive	11	4		9,231			11,984		47,350	42,836	27,278	r29,285
33577 47	33 to 44 AWG inclusive	8	-	r1,008	r1,008	-	r2,953	r2,953	-				
	Class 200	(NA)	(NA)	r142,808	r132,369	10,439	r163,764	r147,785	15,979	110,636		r21,733	
33577 52	7 AWG and larger round (also all square and rectangle)	5	2										
33577 54	8 to 21 AWG inclusive	9	6		r22,729			r26,232					
33577 56	22 to 32 AWG inclusive	9	5	r142,808	81,182	10,439	r163,764	r89,381	15,979	110,636		r21,733	
33577 58	33 to 44 AWG inclusive	5	-		r28,458			32,172	-				
	Class 220	(NA)	(NA)	14,680	r9,518	5,162	25,010	16,134	r8,876	7,891		1,627	
33577 61	7 AWG and larger round (also all square and rectangle)	7	4		r4,436			r6,218					
33577 63	8 to 21 AWG inclusive	8	3		3,996			r6,306					
33577 65	22 to 32 AWG inclusive	7	1	r14,680	245	r5,162	r25,010	649	r8,876	7,891		r1,627	
33577 67	33 to 44 AWG inclusive	3	-										
33577 79	Miscellaneous film coated, n.e.c.	5	2		841			2,961					
	Nonfilm coated (fibrous and tape)	(NA)	(NA)	254,420	250,840	23,580	265,107	260,064	25,043	2 3 38,835		312,132	
	Class 130 and below:												
33577 81	Fibrous	8	4										
33577 83	Tape	4	3	225,726	225,009	2717	225,474	224,376	21,098	2 320,182		34,954	
33577 89	Miscellaneous nonfilm coated, n.e.c.	2	2										
	Class 155 and above:												
33577 85	Fibrous	7	2	28,694	24,702	2,863	39,633	33,678	3,945	18,653		7,178	
33577 87	Tape	4	3		1,129			2,010					
							1972						
33577 --	Magnet wire	(NA)	(NA)	554,771	495,586	45,983	516,335	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. rRevised.

[1]A company shipping both copper and aluminum magnet wire is counted in each column separately. Accordingly, the company counts for individual products may include some duplication.

[2]Data for "insulated magnet sheet, strip and foil" are included with "non-film coated class 130 and below" to avoid disclosing individual company data.

[3]Data for "film coated, 45 AWG and finer" are included with "non-film coated class 130 and below" to avoid disclosing individual company data.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
33511, COPPER WIRE, BARE AND TINNED, NONELECTRICAL		
United States	170.7	157.9
New England Division:		
Connecticut	58.9	GG
Middle Atlantic Division:		
New Jersey	60.5	35.9
33513, COPPER AND COPPER-BASE ALLOY RODS, BARS, AND SHAPES		
United States	1,491.3	1,170.9
New England Division:		
Connecticut	117.9	120.2
Middle Atlantic Division:		
New York	83.7	108.1
Pennsylvania	67.6	50.1
East North Central Division:		
Indiana	153.4	85.7
Michigan	137.6	172.2
Pacific Division:		
California	29.1	22.6
33514, COPPER, COPPER-BASE ALLOY SHEET, STRIP, AND PLATES		
United States	937.3	705.9
New England Division:		
Connecticut	217.5	GG
Middle Atlantic Division:		
Pennsylvania	81.6	37.5
East North Central Division:		
Ohio	106.3	66.7
Michigan	33.7	FF
33515, COPPER AND COPPER-BASE ALLOY PIPE AND TUBES		
United States	895.5	761.8
New England Division:		
Rhode Island	18.5	EE
Connecticut	38.4	GG
Middle Atlantic Division:		
Pennsylvania	143.0	101.9
East North Central Division:		
Ohio	37.2	31.6
Illinois	146.6	87.7
Michigan	34.5	FF
33531, ALUMINUM PLATES		
United States	247.3	89.5
Pacific Division:		
California	19.7	BB
33532, ALUMINUM SHEET AND STRIP		
United States	4,569.6	1,897.4
East North Central Division:		
Illinois	534.1	204.2
Kentucky	244.1	140.1
33533, PLAIN ALUMINUM FOIL (UNDER .006 INCH)		
United States	476.6	216.8
East South Central Division:		
Tennessee	69.3	26.7
33541, EXTRUDED ALUMINUM RODS, BARS, AND OTHER SHAPES		
United States	1,541.9	781.5
Middle Atlantic Division:		
New York	48.5	13.4
New Jersey	63.5	25.2
Pennsylvania	131.9	66.6
East North Central Division:		
Ohio	101.8	69.3
Indiana	137.7	49.3
Illinois	91.7	37.0
Michigan	111.8	63.5
South Atlantic Division:		
South Carolina	18.6	CC
Georgia	127.5	GG
East South Central Division:		
Kentucky	22.6	CC
Mississippi	39.7	23.4
West South Central Division:		
Texas	61.7	FF
Mountain Division:		
Arizona	30.0	EE
Pacific Division:		
California	250.4	112.3
33542, ALUMINUM EXTRUDED AND DRAWN TUBES		
United States	333.0	212.4
Middle Atlantic Division:		
Pennsylvania	23.7	30.3
East North Central Division:		
Ohio	3.6	AA
Illinois	9.8	7.4
Michigan	29.2	18.7
Pacific Division:		
California	19.1	EE
33561, NICKEL AND NICKEL-BASE ALLOY MILL SHAPES		
United States	873.2	270.4
New England Division:		
Connecticut	16.9	EE
33562, TITANIUM MILL SHAPES		
United States	250.7	111.1
Middle Atlantic Division:		
Pennsylvania	11.7	CC
33563, PRECIOUS METAL MILL SHAPES		
United States	751.7	364.0
New England Division:		
Massachusetts	227.0	GG
Middle Atlantic Division:		
New York	241.6	GG
Pacific Division:		
California	33.7	FF
33569, OTHER NONFERROUS METAL MILL SHAPES		
United States	662.1	285.1
Middle Atlantic Division:		
New York	75.8	23.0
New Jersey	79.7	46.2
Pennsylvania	109.3	35.0
East North Central Division:		
Ohio	36.4	34.6
Illinois	102.7	20.2
Pacific Division:		
California	14.0	BB

See footnotes at end of table.

Table 6D. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972 — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
33571, ALUMINUM AND ALUMINUM-BASE ALLOY WIRE AND CABLE		
United States	263.4	153.0
Pacific Division:		
California	26.5	EE
33572, COPPER AND COPPER-BASE ALLOY WIRE		
United States	496.8	353.1
Middle Atlantic Division:		
New York	96.2	67.6
New Jersey	89.7	91.4
Pennsylvania	46.1	2.7
East North Central Division:		
Michigan	10.0	CC
33573, OTHER BARE NONFERROUS METAL WIRE		
United States	117.9	59.5
33576, APPARATUS WIRE AND CORDAGE AND FLEXIBLE CORD SETS		
United States	447.8	(NA)
New England Division:		
Massachusetts	53.0	(NA)
Rhode Island	148.2	(NA)
Connecticut	22.8	(NA)
Middle Atlantic Division:		
New York	12.6	(NA)
Pennsylvania	40.9	(NA)
East North Central Division:		
Ohio	13.3	(NA)
Illinois	22.3	(NA)
Pacific Division:		
California	32.9	(NA)
33577, MAGNET WIRE		
United States	754.4	548.8
New England Division:		
Connecticut	23.7	EE
East North Central Division:		
Indiana	330.4	215.6
Illinois	83.3	63.0
33578, POWER WIRE AND CABLE		
United States	705.9	499.7
New England Division:		
Massachusetts	22.3	12.8
Rhode Island	59.5	46.6
Connecticut	42.6	GG
Middle Atlantic Division:		
New Jersey	99.8	88.6
Pennsylvania	33.0	24.7
East South Central Division:		
Kentucky	27.2	EE
Pacific Division:		
California	64.9	FF
3357A, ELECTRONIC WIRE AND CABLE		
United States	478.9	(NA)
New England Division:		
New Hampshire	17.9	(NA)
Massachusetts	76.1	(NA)
Connecticut	47.3	(NA)
3357A, ELECTRONIC WIRE AND CABLE--Con.		
Middle Atlantic Division:		
New York	41.4	(NA)
New Jersey	19.3	(NA)
Pennsylvania	18.9	(NA)
East North Central Division:		
Illinois	24.2	(NA)
Mountain Division:		
Arizona	16.8	(NA)
Pacific Division:		
California	34.2	(NA)
3357B, TELEPHONE AND TELEGRAPH WIRE AND CABLE		
United States	1,600.2	(NA)
New England Division:		
Massachusetts	14.3	(NA)
Connecticut	5.8	(NA)
Middle Atlantic Division:		
New York	18.3	(NA)
South Atlantic Division:		
North Carolina	75.7	(NA)
3357C, CONTROL AND SIGNAL WIRE AND CABLE		
United States	128.3	(NA)
New England Division:		
Massachusetts	17.5	(NA)
Rhode Island	8.7	(NA)
Connecticut	40.8	(NA)
Middle Atlantic Division:		
New York	10.8	(NA)
Pacific Division:		
California	10.2	(NA)
3357D, BUILDING WIRE AND CABLE		
United States	890.2	(NA)
New England Division:		
Rhode Island	93.0	(NA)
Connecticut	55.1	(NA)
Middle Atlantic Division:		
New York	194.2	(NA)
New Jersey	103.3	(NA)
Pacific Division:		
California	78.6	(NA)
3357E, OTHER INSULATED WIRE AND CABLE, INCLUDING AUTOMOTIVE		
United States	431.7	(NA)
New England Division:		
Massachusetts	32.9	(NA)
Rhode Island	53.5	(NA)
Connecticut	14.8	(NA)
Middle Atlantic Division:		
New York	6.1	(NA)
New Jersey	14.8	(NA)
Pennsylvania	33.2	(NA)
East North Central Division:		
Illinois	16.0	(NA)
Michigan	60.0	(NA)
Pacific Division:		
California	18.3	(NA)

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** – Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
33991, METAL POWDERS, PASTE, AND FLAKES		
United States	702.2	322.7
New England Division:		
Massachusetts	29.1	CC
Connecticut	12.6	BB
Middle Atlantic Division:		
New York	9.6	CC
New Jersey	140.7	61.9
Pennsylvania	124.7	67.3
East North Central Division:		
Indiana	47.5	20.5
Michigan	55.0	30.8
East South Central Division:		
Tennessee	23.1	EE
West South Central Division:		
Texas	35.9	FF
33991, METAL POWDERS, PASTE, AND FLAKES--Con.		
Pacific Division:		
California	16.1	CC
33992, PRIMARY METAL PRODUCTS, N.E.C.		
United States	144.7	93.8
New England Division:		
Connecticut	11.5	CC
Middle Atlantic Division:		
New York	10.2	3.4
Pennsylvania	10.7	12.1
East North Central Division:		
Ohio	20.6	10.4
Michigan	10.3	7.1
Pacific Division:		
California	26.6	CC

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3351-	Copper rolling and drawing	3,536.1	3,096.6	2,328.7	4,227.8	3,701.6	2,825.0	2,216.8	1,544.5
33511	Copper wire, bare and tinned, nonelectrical	170.7	195.8	139.1	202.4	193.3	157.9	95.6	73.2
33513	Copper and copper-base alloy rods, bars, and shapes	1,491.3	1,294.7	946.5	1,773.7	1,509.4	1,170.9		
33514	Copper, copper-base alloy sheet, strip, and plates	937.3	801.7	597.4	1,157.6	961.7	705.9	2,105.1	1,471.4
33515	Copper and copper-base alloy pipe and tubes	895.5	776.2	630.6	1,088.1	1,028.0	761.8		
33510	Copper rolling and drawing, n.s.k.	41.3	28.2	15.1	6.0	9.2	28.5	16.1	-
3353-	Aluminum sheet, plate, and foil	5,358.8	4,449.7	3,073.4	3,666.6	2,813.7	2,238.0	(NA)	(NA)
33531	Aluminum plates	247.3	190.9	218.7	224.3	145.3	89.5	(NA)	(NA)
33532	Aluminum sheet and strip	4,569.6	3,794.3	2,511.7	3,026.2	2,323.9	1,897.4	(NA)	(NA)
33533	Plain aluminum foil (under .006 inch)	476.6	403.3	295.9	366.1	292.7	216.8	184.6	129.4
33534	Aluminum welded tubes	61.6	61.2	47.1	50.0	48.7	34.3	(NA)	(NA)
33530	Aluminum sheet, plate, and foil, n.s.k.	3.7	-	-	-	3.1	-	-	-
3354-	Aluminum extruded products	1,928.2	1,571.1	1,186.9	1,606.6	1,289.5	1,026.4	(NA)	(NA)
33541	Extruded aluminum rods, bars, and other shapes	1,541.9	1,142.5	879.0	1,175.9	1,015.2	781.5	565.7	397.3
33542	Aluminum extruded and drawn tubes	333.0	400.8	290.8	400.0	263.1	212.4	(NA)	(NA)
33540	Aluminum extruded products, n.s.k.	53.3	28.1	17.1	30.7	11.2	32.5	44.8	11.7
3355-	Aluminum rolling and drawing, n.e.c.	1,367.5	654.9	586.2	809.0	611.5	530.6	(NA)	(NA)
33551	Aluminum and aluminum-base alloy wire	124.1	80.0	119.3	125.3	74.9	61.0	75.0	127.9
33552	Rolled aluminum rods, bars, and structural shapes	530.0	511.3	416.6	542.4	393.5	303.0	257.6	145.2
33553	Rolled aluminum ingot, except extrusion billet	709.5	40.7	41.1	111.5	108.0	120.0	55.4	49.0
33554	Rolled aluminum extrusion billet		22.9	9.2	29.8	35.1	46.6	30.8	48.7
33550	Aluminum rolling and drawing, n.e.c., n.s.k.	3.9	-	-	-	-	-	-	-
3356-	Nonferrous rolling and drawing, n.e.c.	2,616.5	1,897.9	1,742.8	1,772.7	1,435.7	1,075.6	1,012.0	630.5
33561	Nickel and nickel-base alloy mill shapes	873.2	489.0	482.0	521.4	438.4	270.4		
33562	Titanium mill shapes	250.7	224.0	287.1	268.8	161.8	111.1		
33563	Precious metal mill shapes	751.7	529.9	474.8	531.7	487.2	364.0	1,012.0	630.5
33569	Other nonferrous metal mill shapes	662.1	623.4	470.0	402.3	301.5	285.1		
33560	Nonferrous rolling and drawing, n.e.c., n.s.k.	78.8	32.0	28.9	48.5	46.8	45.0		
3357-	Nonferrous wire drawing and insulating	6,460.3	5,499.5	4,927.3	6,614.2	5,240.0	4,223.9	3,650.9	2,185.0
33571	Aluminum and aluminum-base alloy wire and cable	263.4	267.1	383.7	353.4	218.0	153.0	176.9	(NA)
33572	Copper and copper-base alloy wire	496.8	657.4	531.0	703.1	460.2	353.1	372.8	245.0
33573	Other bare nonferrous metal wire	117.9	117.2	75.0	104.9	75.0	59.5	40.5	(NA)
33575	Nonferrous wire cloth and other woven products	94.5	16.0	17.2	24.4	38.4	33.9	36.2	(NA)
33576	Apparatus wire and cordage and flexible cord sets	447.8	336.1	285.4	374.8	316.0	262.9	184.2	(NA)
33577	Magnet wire	754.4	617.4	467.2	721.6	663.4	548.8	449.6	258.3
33578	Power wire and cable	705.9	577.2	651.2	821.8	618.5	499.7	424.0	218.8
3357A	Electronic wire and cable	478.9	1,695.2	1,384.1	1,954.5	1,647.4	1,316.0	909.1	581.8
3357B	Telephone and telegraph wire and cable	1,600.2							
3357C	Control and signal wire and cable	128.3							
3357D	Building wire and cable	890.2	1,180.6	1,081.3	1,528.3	1,147.0	956.5	745.9	454.1
3357E	Other insulated wire and cable, including automotive	431.7							
33570	Nonferrous wire drawing and insulating, n.s.k.	50.3	35.3	51.2	27.4	56.1	40.5	50.4	15.4
33980	Metal heat treating	704.1	585.2	496.0	507.6	481.9	454.1	274.9	140.3
3399-	Primary metal products, n.e.c.	967.5	755.9	591.6	681.8	565.9	416.5	(NA)	(NA)
33991	Metal powders, paste, and flakes	702.2	535.1	394.8	502.5	418.3	322.7	227.8	106.8
33992	Primary metal products, n.e.c.	144.7	182.0	171.6	154.7	147.6	93.8	43.1	11.2
33990	Primary metal products, n.e.c., n.s.k.	120.6	38.8	25.2	24.6	-	-	-	-

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with these estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3351, COPPER ROLLING AND DRAWING					
	Materials, parts, containers, and supplies	.....	(X)	2,822.5	(X)	2,234.2
	Nonferrous metals and alloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed	1,000 s. tons..	(D)	(2)	20.9	15.1
333405	Aluminum-base alloys		(D)	(2)	15.7	10.7
	Copper, unalloyed:					
333123	Cathodes		347.2	462.0		
333124	Wire bar		256.5	320.4	1,168.4	1,094.4
333126	Ingot and ingot bar		147.0	188.9		
333127	Other, including cakes, slabs, billets, etc		236.3	319.1		
	Copper-base alloy raw materials:					
333128	Ingot and ingot bar		35.2	44.7	150.4	138.2
333129	Other, including billets, shot, waffle, hardeners, etc		98.5	124.0		
333232	Lead and lead-base alloys		3.9	2.2	5.4	1.7
333973	Magnesium and magnesium-base alloys		.2	.3	.2	.2
333971	Nickel and nickel-base alloys		4.8	21.9	7.1	19.8
333348	Zinc and zinc-base alloys	1,000 s. tons..	104.3	69.8	138.0	50.8
333981	Molybdenum and molybdenum-base alloys	Million lb.....	-	-	(D)	(D)
333983	Tin and tin-base alloys		2.8	13.2	2.3	4.7
333985	Vanadium and vanadium-base alloys		-	-	(D)	(D)
333987	Tungsten and tungsten-base alloys	Million lb.....	-	-	10.0	12.2
333909	Other nonferrous metals and alloys	1,000 s. tons..	2.3	11.2		
	Nonferrous metal scrap, excluding home scrap:					
	Aluminum and aluminum-base alloys:					
999809	From other establishments of the same company		-	-	24.7	21.1
999810	From other sources, excluding home scrap		(D)	(2)		
999812	Copper and copper-base alloys		565.9	610.4	638.4	508.5
999813	Lead and lead-base alloys		(D)	(2)	(X)	(3)
999814	Zinc and zinc-base alloys, including drosses and skimming	1,000 s. tons..	4.1	2.6	7.0	2.5
	Aluminum and aluminum-base alloy mill shapes (rod, bar, sheet, etc.):					
335301	Sheet, plate, and foil	Million lb.....	(D)	(2)	(D)	(D)
335405	Extruded shapes		(D)	(2)		
335008	All other	Million lb.....	-	-		
335100	Brass mill shapes (rod, bar, sheet, etc.)	1,000 s. tons..	91.8	125.0	50.5	53.5
970099	All other materials and components, parts, containers, and supplies	.....	(X)	2466.0	(X)	3266.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	40.8	(X)	25.9
	INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL					
	Materials, parts, containers, and supplies	.....	(X)	4,696.2	(X)	1,858.6
	Nonferrous metals and alloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed	1,000 s. tons...	1,568.8	1,478.0	1,284.9	589.7
333405	Aluminum-base alloys		1,594.8	1,436.4	1,033.9	483.5
	Copper, unalloyed:					
333123	Cathodes					
333124	Wire bar				2.9	3.0
333126	Ingot and ingot bar					
333127	Other, including cakes, slabs, billets, etc		10.9	13.3		
	Copper-base alloy raw materials:					
333128	Ingot and ingot bar					
333129	Other, including billets, shot, waffle, hardeners, etc				2.3	2.8
333973	Magnesium and magnesium-base alloys		36.3	69.7	23.2	16.4
333348	Zinc and zinc-base alloys	1,000 s. tons...	6.4	5.7	2.9	1.1
333983	Tin and tin-base alloys	Million lb.....	(D)	(D)	(D)	(D)
333909	Other nonferrous metals and alloys	1,000 s. tons...	24.5	30.3	82.8	31.0
	Nonferrous metal scrap, excluding home scrap:					
	Aluminum and aluminum-base alloy:					
999809	From other establishments of the same company		174.5	147.5	89.0	35.7
999810	From other sources, excluding home scrap		196.9	164.6	185.5	72.4
999812	Copper and copper-base alloy	1,000 s. tons...	(D)	(D)	(D)	(D)
	Aluminum and aluminum-base alloy mill shapes (rod, bar, sheets, etc.):					
335301	Sheets, plates, and foil	Million lb.....	1,101.7	655.1	880.4	287.3
335405	Extruded shapes		-	-	(D)	(D)
335008	All other	Million lb.....	(D)	(D)	(D)	(D)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	656.4	(X)	204.2
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	31.3	(X)	74.8

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS					
	Materials, parts, containers, and supplies	.....	(X)	1,286.4	(X)	614.1
	Nonferrous metals and alloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed	1,000 s. tons..	328.2	317.2	292.9	162.0
333405	Aluminum-base alloys		557.5	565.4	578.6	264.7
	Copper:					
333123	Cathodes		(D)	(D)		
333124	Wire bar		-	-		
333126	Ingot and ingot bar		-	-	(D)	(D)
333127	Other, including cakes, slabs, billets, etc		(D)	(D)		
	Copper-base alloy raw materials:					
333128	Ingot and ingot bar		-	-		
333129	Other, including billets, shot, waffle, hardeners, etc		(D)	(D)	(D)	(D)
333232	Lead and lead-base alloys		.1	.2	(D)	(D)
333973	Magnesium and magnesium-base alloys		3.6	6.8	11.3	2.6
333971	Nickel and nickel-base alloys		(Z)	(Z)	(D)	(D)
333348	Zinc and zinc-base alloys	1,000 s. tons..	(D)	1.4	2.5	(D)
333981	Molybdenum and molybdenum-base alloys	Million lb.....	-	-	(X)	[5]
333983	Tin and tin-base alloys		(Z)	(D)	(X)	[5]
333985	Vanadium and vanadium-base alloys		-	-	(X)	[5]
333987	Tungsten and tungsten-base alloys	Million lb.....	-	-	(X)	[5]
333909	Other nonferrous metals and alloys	1,000 s. tons..	(D)	(D)	2.5	2.1
	Nonferrous metal scrap, excluding home scrap:					
	Aluminum and aluminum-base alloys:					
999809	From other establishments of the same company		42.3	32.2	31.5	14.7
999810	From other sources, excluding home scrap		77.9	72.0	70.3	27.5
999812	Copper and copper-base alloys		(D)	(D)	(D)	(D)
999813	Lead and lead-base alloys		-	-	(X)	[5]
999814	Zinc and zinc-base alloys, including drosses and skimming	1,000 s. tons..	-	-	(X)	[5]
	Aluminum and aluminum-base alloy mill shapes (rod, bar, sheets, etc.):					
335301	Sheets, plates, and foil	Million lb.....	(D)	(D)	(D)	(D)
335405	Extruded shapes		52.0	30.7	95.3	29.6
335008	All other	Million lb.....	(D)	(D)	(D)	(D)
335100	Brass mill shapes (rod, bar, sheet, etc.)	1,000 s. tons..	-	-	(X)	[5]
970099	All other materials and components, parts, containers, and supplies	.....	(X)	177.4	(X)	[5]78.2
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	45.9	(X)	31.9
	INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	716.7	(X)	264.9
	Nonferrous metals and alloys (ingots, pig, shot, etc.):					
333404	Aluminum, unalloyed	1,000 s. tons..	481.0	442.2	344.4	181.2
333405	Aluminum-base alloys		63.0	64.9		
	Nonferrous metal scrap, excluding home scrap:					
	Aluminum and aluminum-base alloy:					
999809	From other establishments of same company				7.6	3.6
999810	From other sources, excluding home scrap	1,000 s. tons..	46.8	25.9	2.7	1.3
	Aluminum and aluminum-base alloy mill shapes (rods, bars, sheets, etc.):					
335301	Sheets, plates, and foil	Million lb.....				
335405	Extruded shapes		17.3	9.7	(NA)	[6]
335008	All other	Million lb.....				
970099	All other materials and components, parts, containers, and supplies	.....	(X)	144.8	(X)	[6]76.4
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	29.2	(X)	2.4
	INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.					
	Materials, parts, containers, and supplies	.....	(NA)	1,959.3	(X)	825.0
	Nonferrous metals and alloys (ingot, pig, shot, etc.):					
333404	Aluminum, unalloyed	1,000 s. tons..	1.1	1.2	1.7	.9
333405	Aluminum-base alloys		.6	.7	4.4	2.7
	Copper, unalloyed:					
333123	Cathodes		-	-		
333124	Wire bar		.1	.1		
333126	Ingot and ingot bar		(D)	(D)		
333127	Other, including cakes, slabs, billets, etc		.4	.7	17.2	20.0
	Copper-base alloy raw materials:					
333128	Ingot and ingot bar		(D)	(D)		
333129	Other, including billets, shot, waffle, hardeners, etc		.3	.5		
333232	Lead and lead-base alloys		29.9	19.1	21.9	8.4
333973	Magnesium and magnesium-base alloys		9.9	17.5	22.7	14.8
333971	Nickel and nickel-base alloys		68.6	308.3	49.8	183.6
333348	Zinc and zinc-base alloys	1,000 s. tons..	64.6	40.8	38.9	13.9
333981	Molybdenum and molybdenum-base alloys	Million lb.....	2.3	11.0	3.3	6.0
333983	Tin and tin-base alloys		16.7	71.8	8.8	17.6
333985	Vanadium and vanadium-base alloys		(D)	(D)	(D)	(D)
333987	Tungsten and tungsten-base alloys	Million lb.....	(D)	(D)	6.1	16.8
333909	Other nonferrous metals and alloys	1,000 s. tons..	(NA)	723.9	131.1	251.1

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.--Con.					
	Nonferrous metal scrap, excluding home scrap:					
	Aluminum and aluminum-base alloy:					
999809	From other establishments of the same company	1,000 s. tons	-	-	-	-
999810	From other sources, excluding home scrap		(D)	(D)	(D)	(D)
999812	Copper and copper-base alloy		(D)	(D)	-	-
999813	Lead and lead-base alloys		(D)	(D)	(X)	(4)
999814	Zinc and zinc-base alloys, including drosses and skimming	1,000 s. tons	8.9	3.9	-	-
	Aluminum and aluminum-base alloy mill shapes (rod, bar, sheet, etc.):					
335301	Sheet, plate, and foil	Million lb	(D)	(D)	(D)	(D)
335405	Extruded shapes		(D)	(D)		
335008	All other	Million lb	-	-		
335100	Brass mill shapes (rod, bar, sheet, etc.)	1,000 s. tons	(D)	(D)	.9	1.4
970099	All other materials and components, parts, containers, and supplies		(X)	564.0	(X)	4215.4
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	136.9	(X)	48.2
	INDUSTRY 3357, NONFERROUS WIRE DRAWING AND INSULATING					
	Materials, parts, containers, and supplies		(X)	4,264.9	(X)	2,862.6
333102	Copper cathodes	Million lb	459.6	305.1	622.2	310.2
333125	Copper and copper-base alloy wire bar		500.6	333.4		
	Nonferrous metal mill shapes and forms, except castings:					
	Rods:					
335009	Aluminum and aluminum-base alloy		448.5	231.9	731.3	229.2
335133	Copper, unalloyed		1,607.5	1,106.1	1,337.0	706.3
335135	Copper-base alloy		175.3	123.7	167.8	89.0
	Wire for redrawing:					
335511	Aluminum and aluminum-base alloy		209.3	100.0	124.1	41.4
335112	Copper and copper-base alloy		283.5	191.7	181.2	105.3
335608	Other		(NA)	12.8	(S)	17.1
	Bare wire, except wire for redrawing:					
335725	Copper and copper-base alloy (electrical)		327.0	266.4	313.5	198.6
335718	Aluminum and aluminum-base alloy		44.8	28.7	161.4	24.6
	All other mill shapes and forms:					
335109	Copper and copper-base alloy, including mechanical wire		55.9	61.4	45.6	29.1
335007	Aluminum and aluminum-base alloy		62.0	41.8	111.8	62.6
335609	Other		53.3	57.6	26.6	14.4
335794	Insulated copper wire and cable for further processing (copper content)	Million lb	32.2	26.9	22.7	23.7
333121	Refined unalloyed copper (cathodes, ingot, cakes, slabs, etc., but excluding wire bar)	1,000 s. tons	4.1	5.7	(D)	(D)
333976	Refined unalloyed tin		1.7	15.1	2.0	4.4
333113	Copper-base alloy raw materials (ingot, billets, shot, waffle, hardeners, etc.)		9.8	13.6	(D)	(D)
999812	Copper and copper-base alloy scrap	1,000 s. tons	(D)	(D)	(D)	(D)
084911	Natural rubber	1,000 l. tons	(D)	(D)	(D)	(D)
282202	Synthetic rubber	1,000 l. tons	62.8	76.1	59.3	28.2
282104	Plastics resins consumed in the form of granules, pellets, powder, liquid, etc., except sheets, rods, tubes, and shapes	Million lb	1,103.1	423.5	2,306.1	208.0
228102	Cotton yarns	Million lb	8.9	14.3	15.5	13.1
970099	All other materials and components, parts, containers, and supplies		(X)	713.7	(X)	520.1
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	109.0	(X)	51.9
	INDUSTRY 3398, METAL HEAT TREATING (Materials data was not collected for this industry)					
	INDUSTRY 3399, PRIMARY METALS PRODUCTS, N.E.C. (Materials data was not collected for this industry)					

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1] For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2] For 1977, material codes 333404, 333405, 999810, 999813, 335301, and 335405 were included with material code 970099.

[3] For 1972, material code 999813 was included with material code 970099.

[4] Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5] For 1972, data for material codes 333981, 333983, 333985, 333987, 999813, 999814, 335100 were included with material code 970099.

[6] For 1972, material codes 335301, 335405, and 335008 were included with material code 970099.

Table 8. **Departmental Operations by Subindustry: 1977 and 1972**

Operation	Man-hours of production workers (million)			Production worker wages (million dollars)		
	Total	Establishments with casting department	Establishments without casting department	Total	Establishments with casting department	Establishments without casting department
INDUSTRY 3351, COPPER ROLLING AND DRAWING						
1977						
All departments	50.5	36.9	13.6	338.7	263.2	75.6
Casting (except foundry)	4.3	4.3	-	31.5	31.5	-
Rod mill	4.0	3.8	.2	28.7	27.6	1.1
Wire mill (including stranding mill)	1.7	1.0	.7	10.4	7.2	3.2
Tube mill	8.7	6.9	1.8	55.1	44.6	10.5
Flat products mill	5.6	4.4	1.2	44.9	37.1	7.8
Foundry (nonferrous)	.7	.3	.4	4.1	2.0	2.1
Machine shop and tool and die shop	2.8	2.5	.3	21.4	19.4	2.0
Heat treating and annealing	.5	.3	.2	2.9	1.7	1.2
Other manufacturing or fabricating departments	2.1	1.8	.3	14.2	12.9	1.3
All other, including service or auxiliary operations	8.5	7.8	.7	57.5	52.6	4.9
Not specified	11.6	3.8	7.8	68.1	26.6	41.5
1972						
All departments	63.1	39.2	23.9	288.1	188.8	99.3
Casting (except foundry)	5.1	5.1	-	25.7	25.7	-
Rod mill	5.9	3.9	2.0	28.3	19.4	8.9
Wire mill (including stranding mill)	4.4	1.1	3.3	17.8	5.5	12.3
Tube mill	13.4	7.1	6.3	57.0	30.9	26.1
Flat products mill	9.9	6.6	3.3	48.1	33.9	14.2
Foundry (nonferrous)	1.1	-	1.1	4.8	-	4.8
Machine shop and tool and die shop	3.1	2.4	.7	14.9	11.8	3.1
Heat treating and annealing	.7	.5	.2	3.4	2.5	.9
Other manufacturing or fabricating departments	5.1	3.9	1.2	22.3	17.4	4.9
All other, including service or auxiliary operations	9.7	8.0	1.7	45.9	38.5	7.4
Not specified	4.7	.6	4.1	19.9	3.2	16.7

Operation	Man-hours of production workers (million)			Production worker wages (million dollars)		
	Total[1]	Establishments with melting facilities[1]	Establishments without melting facilities[1]	Total	Establishments with melting facilities	Establishments without melting facilities
INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL						
1977						
All departments	50.6	36.3	14.1	480.1	351.2	127.4
Melting (except foundry)	5.5	5.5	-	48.4	48.4	-
Sheet and plate mill	21.4	13.3	8.1	203.9	124.7	79.2
Foil rolling mill (excluding conversion or subsequent operations)	3.5	1.4	2.1	32.2	13.1	19.1
Extrusion department (rod, bar, tube, pipe, etc.)	(D)	(D)	-	(D)	(D)	-
Tube mill (drawn and welded)	.5	(D)	(D)	3.3	(D)	(D)
Wire, rod and bar mill (excluding extruded)	(D)	(D)	-	(D)	(D)	-
Electrical conductor department (ACSR, insulated, etc)	(Z)	(Z)	-	(D)	(D)	-
Forging and impact extrusions	-	-	-	-	-	-
Foundry (nonferrous)	(D)	(D)	(D)	(D)	(D)	(D)
Machine shop and tool and die shop	2.0	1.6	.4	19.9	15.8	4.1
Other manufacturing or fabricating departments	4.0	2.5	1.5	22.8	9.0	13.8
All other, including service or auxiliary operations	10.3	9.6	.7	103.3	97.7	5.6
Not specified	2.7	1.6	.9	38.1	35.1	3.0
1972						
All departments	51.9	29.7	22.2	281.9	164.4	117.5
Melting (except foundry)	4.3	(D)	(D)	23.0	(D)	(D)
Sheet and plate mill	18.8	12.2	6.6	101.6	67.3	34.3
Foil rolling mill (excluding conversion or subsequent operations)	3.3	.8	2.5	16.4	4.5	11.9
Extrusion department (rod, bar, tube, pipe, etc.)	.9	(D)	(D)	3.7	(D)	(D)
Tube mill (drawn and welded)	(D)	(D)	(D)	(D)	(D)	(D)
Wire, rod and bar mill (excluding extruded)	-	-	-	-	-	-
Electrical conductor department (ACSR, insulated, etc.)	-	-	-	-	-	-
Forging and impact extrusions	(D)	(D)	(D)	(D)	(D)	(D)
Foundry (nonferrous)	-	-	-	-	-	-
Machine shop and tool and die shop	2.0	(D)	(D)	11.5	(D)	(D)
Other manufacturing or fabricating departments	3.2	1.5	1.7	15.9	7.4	8.5
All other, including service or auxiliary operations	10.0	(D)	(D)	58.8	(D)	(D)
Not specified	9.2	.1	9.1	49.8	.5	49.3
INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS						
1977						
All departments	44.0	14.7	29.3	264.1	102.7	161.4
Melting (except foundry)	1.4	1.4	-	9.8	9.8	-
Sheet and plate mill	(D)	(D)	-	(D)	(D)	-
Foil rolling mill (excluding conversion or subsequent operations)	-	-	-	-	-	-

See footnotes at end of table.

Table 8. **Departmental Operations by Subindustry: 1977 and 1972**—Con.

Operation	Man-hours of production workers (millions)			Production worker wages (million dollars)		
	Total[1]	Establishments without melting facilities[1]	Establishments without melting facilities[1]	Total	Establishments with melting facilities	Establishments with melting facilities
INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS--Con.						
1977--Con.						
Extrusion department (rod, bar, tube, pipe, etc.)	12.7	4.0	8.7	80.7	28.6	52.1
Tube mill (drawn and welded)	(D)	(D)	(D)	(D)	(D)	(D)
Wire, rod, and bar mill (excluding extruded)	-	-	-	-	-	-
Electrical conductor department (ACSR, insulated, etc.)	-	-	-	-	-	-
Forging impact extrusions	(D)	(D)	(Z)	(D)	(D)	(D)
Foundry (nonferrous)	(D)	(D)	(D)	(D)	(D)	(D)
Machine shop and tool and die shop	1.4	.9	.5	14.2	9.0	5.2
Other manufacturing or fabricating departments	4.1	1.5	2.6	24.7	8.5	16.2
All other, including service or auxiliary operations	3.9	2.8	1.1	26.0	20.8	5.2
Not specified	18.5	2.6	15.9	95.4	14.8	80.6
1972						
All departments	45.4	17.9	27.5	174.1	77.9	96.2
Melting (except foundry)	1.4	1.4	-	6.4	6.4	-
Sheet and plate mill	(D)	(D)	(D)	(D)	(D)	(D)
Foil rolling mill (excluding conversion or subsequent operations)	(D)	(D)	(D)	(D)	(D)	(D)
Extrusion department (rod, bar, tube, pipe, etc.)	15.4	6.2	9.2	58.1	25.1	33.0
Tube mill (drawn and welded)	2.1	(D)	(D)	(D)	(D)	(D)
Wire, rod, and bar mill (excluding extruded)	(D)	-	(D)	(D)	-	(D)
Electrical conductor department (ACSR, insulated, etc.)	-	-	-	-	-	-
Forging and impact extrusions	(D)	(D)	(D)	(D)	(D)	(D)
Foundry (nonferrous)	.6	(D)	(D)	2.2	(D)	(D)
Machine shop and tool and die shop	2.4	2.1	.3	11.4	10.5	.9
Other manufacturing or fabricating departments	5.7	3.2	2.5	19.7	10.3	9.4
All other, including service or auxiliary operations	2.1	1.3	.8	10.0	6.4	3.6
Not specified	14.4	.7	13.7	54.4	7.4	47.0

Operation	Man-hours of production workers (millions)					Production worker wages (million dollars)				
		With wiredrawing			Establishments without wire drawing department[1]		With wiredrawing			Establishments without wire drawing department[1]
			Without rod mill					Without rod mill		
	Total[1]	With rod mill[1]	With insulating department[1]	Without insulating department[1]		Total[1]	With rod mill[1]	With insulating department[1]	Without insulating department[1]	
INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATION										
1977										
All departments	101.8	20.3	46.6	6.6	27.6	603.4	122.8	305.8	38.7	133.0
Rod mill	1.4	1.4	(Z)	-	-	9.9	9.9	(Z)	-	-
Wiredrawing and stranding mill	13.1	3.8	6.1	3.2	(Z)	77.4	25.8	34.8	(D)	(D)
Insulating and cabling of wire and cable, including sheathing	37.5	5.8	20.3	-	11.4	225.9	33.6	138.4	-	53.9
Electroplating, galvanizing, heat treating and annealing	.8	.3	.2	(D)	(D)	4.7	1.9	1.3	(D)	(D)
Machine shop and tool and die shop	6.0	1.2	4.1	(D)	(D)	42.1	7.7	30.4	1.2	2.8
Other manufacturing or fabricating departments, including annealing	12.8	3.0	5.5	.5	3.8	68.8	16.8	30.5	3.0	18.5
All other, including service or auxiliary operations	16.8	4.6	8.2	.6	3.4	101.2	25.2	53.3	2.6	20.1
Not specified	13.4	.2	2.2	1.9	8.4	73.4	1.9	17.1	14.2	37.1
1972										
All departments	110.2	21.2	47.9	4.4	36.9	452.1	95.6	204.5	16.7	135.1
Rod mill	1.6	1.3	-	-	.3	7.2	5.8	-	-	1.4
Wiredrawing and stranding mill	13.4	3.6	6.2	(D)	(D)	56.8	16.4	26.5	(D)	(D)
Insulating and cabling of wire and cable, including sheathing	35.6	5.9	19.1	-	10.6	151.1	28.7	84.2	-	38.2
Electroplating galvanizing, heat treating and annealing	1.5	.8	.3	(D)	(D)	6.7	3.6	2.1	(D)	(D)
Machine shop and tool and die shop	6.7	1.5	4.0	.3	.9	30.9	6.7	19.4	1.2	3.6
Other manufacturing or fabricating departments, including annealing	16.6	3.6	10.2	.8	2.0	63.0	14.5	38.5	3.2	6.8
All other, including service or auxiliary operations	16.2	3.7	6.5	.2	5.8	66.8	16.5	27.7	.8	21.8
Not specified	18.8	.8	1.5	.1	16.4	69.5	3.4	6.1	.4	59.6

- Represents zero. (D) Withheld to avoid disclosing operations for individual companies. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Four-digit industry totals are not equal to sum of 6 digit subindustry figure due to difficulties in classifying a few establishments at subindustry level.

Metal Cans, Cutlery, Hand Tools, and General Hardware

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DESCRIPTION OF INDUSTRIES

METALS CANS, CUTLERY, HAND TOOLS, AND GENERAL HARDWARE

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3411	Metal Cans
3412	Metal Barrels, Drums, and Pails
3421	Cutlery
3423	Hand and Edge Tools, N.E.C.
3425	Hand Saws and Saw Blades
3429	Hardware, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3411, METAL CANS

This industry comprises establishments primarily engaged in the manufacture of metal cans and lids, ends, and parts for metal cans. Establishments primarily engaged in the manufacture of foil containers are classified in industry 3497.

The total value of shipments for establishments classified in the Metal Cans industry amounted to $8,143 million in 1977, an increase of 81 percent from 1972. The value of shipments of products classified as primary to the industry was $7,415 million, an increase of 76 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $3,154 million in 1977, was 74 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 59.8 thousand employees, a decrease of 13 percent from 1972. The leading States in employment were California, Illinois, Ohio, and New Jersey, accounting for approximately 40 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of metal cans only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of metal cans are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-34D, Metal Cans. Some of these data are also shown in table 6a-2.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3412, METAL BARRELS, DRUMS, AND PAILS

This industry comprises establishments primarily engaged in the manufacture of ferrous and nonferrous metal shipping barrels, drums, kegs, and pails. Establishments primarily engaged in the manufacture of metal cans are classified in industry 3411.

The total value of shipments for establishments classified in the Metal Barrels, Drums, and Pails industry amounted to $937 million in 1977, an increase of 103 percent from 1972. The value of shipments of products classified as primary to the industry was $948 million, an increase of 86 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were steel shipping barrels and drums, for which shipments increased 88 percent, and steel pails, for which shipments increased 78 percent. Value added by manufacture, at $390 million in 1977, was 106 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.4 thousand employees, an increase of 22 percent from 1972. The leading States in employment were Illinois, New Jersey, California, and Ohio,

accounting for approximately 5 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of steel pails and steel shipping barrels and drums only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of steel pails and steel shipping barrels and drums are reported annually in the Census Bureau's Current Industrial Reports (CIR) M34K, Steel Shipping Drums and Pails. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3421, CUTLERY

This industry comprises establishments primarily engaged in the manufacture of cutlery. Establishments primarily engaged in the manufacture of table cutlery made entirely of metal are classified in industry 3914; electric razors in industry 3634; and hair clippers for human use in industry 3999, and for animal use in industry 3523.

The total value of shipments for establishments classified in the Cutlery industry amounted to $711 million in 1977, an increase of 66 percent from 1972. The value of shipments of products classified as primary to the industry was $667 million, an increase of 65 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were razor blades and razors, for which shipments increased 48 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $492 million in 1977, was 53 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 14.9 thousand employees, an increase of 11 percent from 1972. The leading States in employment were Massachusetts, New York, Connecticut, and New Jersey, accounting for approximately 60 percent of the industry's 1977 employment. Data for Massachusetts and Connecticut have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3423, HAND AND EDGE TOOLS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of files and other hand and edge tools for metalworking, woodworking, and general maintenance. Establishments primarily engaged in the manufacture of saws are classified in industry 3425.

The total value of shipments for establishments classified in the Hand and Edge Tools, N.E.C. industry amounted to $2,279 million in 1977, an increase of 85 percent from 1972. The value of shipments of products classified as primary to the industry was $2,066 million, an increase of 85 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were mechanics hand service tools, for which shipments increased 78 percent, and edge tools hand operated, for which shipments increased 105 percent. Value added by manufacture, at $1,421 million in 1977, was 82 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 47.0 thousand employees, an increase of 20 percent from 1972. The leading States in employment were Ohio, New York, Massachusetts, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3425, HAND SAWS AND SAW BLADES

This industry comprises establishments primarily engaged in the manufacture of hand saws and saw blades for hand and power-driven saws. Establishments primarily engaged in the manufacture of power driven sawing machines are classified in major group 35.

The total value of shipments for establishments classified in the Hand Saws and Saw Blades industry amounted to $363 million in 1977, an increase of 87 percent from 1972. The value of shipments of products classified as primary to the industry was $369 million, an increase of 83 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were metalworking power saw band blades, for which shipments increased 102 percent. Value added by manufacture, at $231 million in 1977, was 81 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.6 thousand employees, an increase of 15 percent from 1972. The leading States in employ-

ment were Massachusetts, Oregon, Kentucky, and Connecticut, accounting for approximately 45 percent of the industry's 1977 employment. Data for Oregon, Kentucky, and Connecticut have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3429, HARDWARE, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of miscellaneous metal products usually termed hardware, not elsewhere classified. Establishments primarily engaged in the manufacture of bolts and nuts are classified in industry 3452, nails and spikes in major group 33, cutlery in industry 3421, hand tools in industry 3423, and pole line and transmission hardware in major group 36.

The total value of shipments for establishments classified in the Hardware, N.E.C. industry amounted to $5,203 million in 1977, an increase of 60 percent from 1972. The value of shipments of products classified as primary to the industry was $5,083 million, an increase of 64 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were motor vehicle hardware, for which shipments increased 328 percent. Value added by manufacture, at $3,033 million in 1977, was 50 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 99.2 thousand employees, a decrease of 1 percent from 1972. The leading States in employment were Michigan, California, Illinois, and Ohio, accounting for approximately 50 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3411, METAL CANS																
1977 Census--	153	403	300	59.8	1 066.3	50.2	106.4	870.8	3 154.3	5 068.7	8 142.8	176.9	(NA)	1 032.9	96	98
1976 ASM----	(NA)	(NA)	(NA)	61.1	982.1	51.2	107.0	798.8	2 764.2	4 509.6	7 230.8	131.0	2 103.3	882.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	62.7	909.9	52.2	109.8	732.4	2 547.7	4 164.5	6 738.7	232.2	2 127.4	848.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	69.1	893.1	58.7	123.2	730.3	2 649.6	3 505.1	6 024.6	192.4	1 948.5	1 001.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	69.8	811.3	60.2	128.0	672.4	2 083.7	2 867.0	4 952.6	144.9	1 877.7	652.2	(NA)	(NA)
1972 Census--	133	396	309	68.5	740.7	58.7	123.7	611.3	1 815.8	2 711.9	4 510.8	138.1	1 803.2	610.2	96	99
1971 ASM----	(NA)	(NA)	(NA)	68.7	691.1	58.8	121.7	565.3	1 688.1	2 429.4	4 159.4	129.5	1 671.1	643.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	70.1	647.0	60.5	128.0	532.9	1 618.2	2 368.5	3 898.3	144.5	1 549.9	657.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	65.1	573.7	56.4	118.8	476.4	1 410.4	2 144.1	3 548.4	137.9	1 355.4	492.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	63.7	542.3	55.1	119.4	450.5	1 337.7	2 020.8	3 345.4	119.1	1 278.6	533.8	(NA)	(NA)
1967 Census--	96	299	241	60.3	474.4	52.3	112.7	393.3	1 141.5	1 786.2	2 890.6	99.2	1 161.6	449.6	90	98
1966 ASM----	(NA)	(NA)	(NA)	58.7	446.9	51.0	108.0	367.9	1 043.5	1 584.2	2 631.3	99.5	(NA)	396.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	54.9	422.3	46.5	103.0	349.9	1 011.4	1 417.7	2 395.0	79.4	(NA)	428.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	55.1	400.6	47.5	102.0	330.2	932.4	1 335.2	2 255.7	71.8	932.4	337.4	(NA)	(NA)
1963 Census--	99	270	206	53.2	377.0	46.1	97.3	311.1	830.5	1 265.2	2 075.0	66.5	868.9	321.7	97	98
INDUSTRY 3412, METAL BARRELS, DRUMS, AND PAILS																
1977 Census--	120	184	113	12.4	180.3	9.8	20.1	128.8	389.6	551.2	937.1	31.8	(NA)	135.0	94	90
1976 ASM----	(NA)	(NA)	(NA)	11.3	149.3	8.8	17.7	105.0	320.6	433.6	752.6	19.2	229.4	125.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	11.0	130.5	8.6	17.0	90.6	278.3	391.7	670.6	17.3	212.6	106.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	12.3	137.9	9.7	20.2	98.0	336.4	423.1	751.9	11.4	200.0	145.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	10.6	111.0	8.8	18.1	81.5	228.6	305.2	538.2	8.0	179.8	75.5	(NA)	(NA)
1972 Census--	99	157	99	10.2	98.9	8.1	16.7	71.2	188.8	273.5	461.3	8.4	173.6	65.9	97	86
1971 ASM----	(NA)	(NA)	(NA)	10.6	94.2	8.3	17.3	65.2	183.1	244.7	427.8	10.0	172.4	77.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	11.1	91.9	8.8	18.6	64.9	173.8	234.4	405.0	10.9	170.6	78.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	11.1	89.0	8.9	18.8	64.3	167.1	232.1	399.3	10.9	165.3	65.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	11.0	84.6	8.8	18.9	61.1	156.9	231.2	388.9	14.8	153.3	63.7	(NA)	(NA)
1967 Census--	91	149	96	11.6	83.5	9.1	19.4	59.9	150.6	221.5	370.7	15.0	142.5	57.1	92	88
1966 ASM----	(NA)	(NA)	(NA)	11.9	81.3	9.7	19.9	58.4	146.2	214.6	361.7	11.1	(NA)	57.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	11.0	73.9	9.0	18.2	53.1	140.6	208.0	347.0	6.7	(NA)	60.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	10.5	70.6	8.4	17.6	50.8	124.8	194.0	317.3	7.5	116.9	54.9	(NA)	(NA)
1963 Census--	95	145	93	10.5	66.6	8.5	17.7	49.1	119.6	183.9	303.4	6.4	110.4	49.5	92	86
INDUSTRY 3421, CUTLERY																
1977 Census--	119	130	62	14.9	159.6	12.1	23.5	118.3	492.0	219.1	711.4	23.3	(NA)	132.1	92	94
1976 ASM----	(NA)	(NA)	(NA)	15.3	149.8	12.2	23.5	109.0	471.3	214.0	677.0	19.5	194.2	132.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	14.0	130.5	11.3	21.7	93.3	405.3	190.2	590.5	17.9	186.5	120.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	15.0	128.1	12.4	24.9	93.9	406.4	157.6	544.8	22.7	188.6	115.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	13.6	108.4	11.2	22.6	77.3	338.2	122.7	461.8	18.0	170.2	84.6	(NA)	(NA)
1972 Census--	123	134	69	13.4	102.6	10.9	22.3	73.0	322.3	112.9	427.5	11.7	162.4	81.5	91	94
1971 ASM----	(NA)	(NA)	(NA)	12.2	87.3	9.7	18.8	60.6	277.7	91.6	370.3	10.1	139.2	66.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	12.7	91.8	10.0	20.2	61.4	275.1	91.7	360.0	13.3	139.7	68.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	11.2	76.4	8.9	17.7	52.9	242.8	80.3	332.7	12.3	120.7	54.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	11.6	70.9	9.5	18.8	50.7	232.7	75.5	307.5	4.3	122.3	65.5	(NA)	(NA)
1967 Census--	138	146	69	13.0	80.2	10.4	20.5	54.5	276.3	104.9	378.5	11.5	120.3	62.8	79	95
1966 ASM----	(NA)	(NA)	(NA)	13.7	80.0	10.6	21.4	54.4	270.1	107.5	373.6	11.6	(NA)	63.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	14.2	80.0	11.0	22.4	54.1	256.7	97.6	351.3	11.5	(NA)	56.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	11.8	65.5	9.3	19.7	44.4	214.7	81.6	295.1	9.0	94.0	50.5	(NA)	(NA)
1963 Census--	156	161	67	11.8	64.3	9.5	19.3	43.9	214.0	72.9	283.4	12.4	85.1	47.2	89	97
INDUSTRY 3423, HAND AND EDGE TOOLS, N.E.C.																
1977 Census--	662	724	296	47.0	566.4	36.9	72.8	394.7	1 421.4	898.7	2 279.2	72.0	(NA)	487.4	91	90
1976 ASM----	(NA)	(NA)	(NA)	41.2	466.4	32.3	63.0	321.2	1 147.8	680.9	1 817.2	61.0	523.4	379.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	38.0	412.3	29.8	58.4	284.4	925.5	615.7	1 542.6	61.1	465.4	365.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	42.0	424.1	33.4	65.9	301.2	906.8	619.3	1 478.6	52.8	405.9	364.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	42.2	389.8	33.3	66.2	274.5	838.8	549.2	1 387.4	47.8	363.2	303.9	(NA)	(NA)
1972 Census--	582	626	255	39.3	343.0	31.1	62.0	240.7	780.0	473.3	1 233.1	33.5	340.9	268.1	89	88
1971 ASM----	(NA)	(NA)	(NA)	35.6	285.9	28.3	56.6	200.5	637.7	393.3	1 015.0	30.2	310.9	231.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	37.7	287.7	30.0	59.9	203.5	617.1	378.5	975.9	25.4	317.1	221.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	38.1	279.6	30.3	60.8	198.3	616.3	369.0	981.7	22.8	308.4	199.4	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	36.0	246.9	28.6	57.5	172.0	540.6	326.4	875.2	24.7	294.1	183.1	(NA)	(NA)
1967 Census--	630	667	252	35.9	232.9	28.7	57.9	165.8	509.4	311.9	813.5	23.3	280.4	177.5	93	85
1966 ASM----	(NA)	(NA)	(NA)	38.0	245.0	30.0	62.8	175.0	511.9	308.5	808.1	19.6	(NA)	174.6	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	35.3	212.2	27.7	56.1	151.7	455.3	274.5	714.6	16.8	(NA)	159.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	32.7	193.1	25.4	51.5	136.7	390.0	238.2	626.4	13.7	195.8	137.6	(NA)	(NA)
1963 Census--	681	716	255	31.5	176.8	24.5	48.7	125.7	364.3	207.4	565.6	11.0	184.0	132.2	87	84

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3425, HAND SAWS AND SAW BLADES																
1977 Census--	105	115	55	7.6	94.3	5.7	11.4	62.7	230.6	137.6	363.3	13.4	(NA)	75.5	86	77
1976 ASM----	(NA)	(NA)	(NA)	6.8	79.8	5.0	10.1	52.8	187.2	123.6	307.0	10.0	115.4	67.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	6.2	69.4	4.3	8.5	43.5	161.3	92.9	253.7	12.4	105.0	62.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	7.2	69.8	5.2	10.2	43.6	174.0	93.4	263.8	11.2	95.3	57.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	7.0	64.2	5.4	11.4	45.6	143.3	84.8	222.7	11.1	77.1	47.7	(NA)	(NA)
1972 Census--	82	91	52	6.6	56.7	4.9	9.9	37.5	127.5	70.7	194.4	6.4	68.5	46.4	85	77
1971 ASM----	(NA)	(NA)	(NA)	7.0	57.2	5.1	10.2	33.8	123.3	63.1	183.2	5.9	67.6	49.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.3	60.1	6.8	14.0	37.4	114.7	63.2	177.8	5.4	67.9	46.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	6.7	49.5	5.2	10.6	34.5	115.2	62.9	174.2	5.1	62.2	42.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	6.3	44.2	4.7	9.9	30.9	100.4	58.9	158.3	4.7	58.5	36.7	(NA)	(NA)
1967 Census--	74	85	49	6.3	43.4	4.8	10.1	29.5	97.1	58.3	154.3	3.9	55.3	35.0	80	82
1966 ASM----	(NA)	(NA)	(NA)	6.2	40.9	4.8	10.4	28.6	99.5	52.4	149.9	2.8	(NA)	30.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	5.7	36.5	4.5	9.4	25.1	81.7	44.8	125.3	2.3	(NA)	27.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	5.0	31.3	3.7	7.7	20.2	68.1	39.6	106.4	2.7	35.0	25.0	(NA)	(NA)
1963 Census--	70	76	42	5.1	29.1	3.8	7.7	19.6	65.6	38.6	102.8	6.3	33.0	24.4	78	58
INDUSTRY 3429, HARDWARE, N.E.C.																
1977 Census--	1 063	1 168	464	99.2	1 359.0	77.9	156.8	977.7	3 032.6	2 239.0	5 202.6	190.2	(NA)	849.7	94	94
1976 ASM----	(NA)	(NA)	(NA)	95.1	1 203.6	73.6	146.8	844.2	2 679.8	1 960.5	4 591.4	152.6	1 392.9	783.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	88.8	1 006.9	67.3	129.8	683.2	2 109.5	1 621.2	3 773.3	113.3	1 364.9	725.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	98.1	1 008.1	72.9	148.5	692.7	2 129.4	1 595.1	3 637.5	109.3	1 256.9	797.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	103.7	1 006.8	81.8	165.4	723.6	2 147.8	1 489.3	3 577.6	149.8	1 228.1	628.2	(NA)	(NA)
1972 Census--	965	1 053	482	99.9	902.6	78.8	159.9	633.2	2 023.6	1 263.8	3 239.4	91.4	1 137.5	536.6	94	95
1971 ASM----	(NA)	(NA)	(NA)	96.6	821.2	74.3	156.5	567.6	1 743.6	1 161.6	2 916.8	76.5	1 087.5	490.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	96.6	760.9	72.9	155.1	513.5	1 505.7	1 044.4	2 538.3	66.0	1 079.1	486.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	102.9	777.0	81.1	163.4	551.0	1 618.4	1 104.0	2 689.9	76.2	1 017.6	440.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	102.1	745.6	81.1	175.4	535.6	1 512.8	1 077.4	2 579.8	73.5	978.1	409.5	(NA)	(NA)
1967 Census--	979	1 041	484	100.8	686.7	80.0	171.4	492.4	1 435.5	954.5	2 368.3	81.3	951.0	389.5	91	95
1966 ASM----	(NA)	(NA)	(NA)	102.7	675.3	81.9	166.6	485.6	1 398.2	960.0	2 343.8	87.6	(NA)	365.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	98.0	635.2	78.5	162.3	463.7	1 294.8	927.8	2 209.1	98.8	(NA)	333.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	92.5	579.6	73.8	149.5	422.1	1 149.8	811.3	1 937.9	86.4	733.3	319.7	(NA)	(NA)
1963 Census--	1 025	1 069	446	88.1	529.2	70.2	145.6	383.4	1 063.7	730.5	1 785.1	71.0	667.0	277.5	91	93

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3411, METAL CANS											
1977 Census--	17 822	(NA)	83	2 121	8.18	62	75	(NA)	52 722	33	29.65
1976 ASM----	16 073	34 423	83	2 089	7.46	62	75	29	45 240	35	25.83
1975 ASM----	14 511	33 929	83	2 103	6.67	61	75	31	40 633	35	23.20
1974 ASM----	12 924	28 198	84	2 098	5.92	58	73	32	38 344	33	21.50
1973 ASM----	11 623	26 901	86	2 126	5.25	57	74	37	29 852	38	16.27
1972 Census--	10 813	26 324	85	2 107	4.94	60	76	39	26 508	40	14.67
1971 ASM----	10 059	24 324	85	2 069	4.64	58	75	40	24 572	40	13.87
1970 ASM----	9 229	22 109	86	2 115	4.16	60	77	39	23 084	39	12.64
1969 ASM----	8 812	20 820	86	2 106	4.01	60	76	38	21 665	40	11.87
1968 ASM----	8 513	20 072	86	2 166	3.77	60	76	38	21 000	40	11.20
1967 Census--	7 867	19 263	86	2 154	3.48	61	78	40	18 930	41	10.12
1966 ASM----	7 613	(NA)	86	2 117	3.40	60	77	(NA)	17 776	42	9.66
1965 ASM----	7 692	(NA)	84	2 215	3.39	59	76	(NA)	18 422	41	9.81
1964 ASM----	7 270	16 921	86	2 147	3.23	59	76	41	16 921	42	9.14
1963 Census--	7 086	16 332	86	2 110	3.19	60	79	41	15 610	45	8.53
INDUSTRY 3412, METAL BARRELS, DRUMS, AND PAILS											
1977 Census--	14 487	(NA)	78	2 047	6.40	58	78	(NA)	31 307	46	19.37
1976 ASM----	13 212	20 300	77	2 011	5.93	57	77	30	28 371	46	18.11
1975 ASM----	11 863	19 327	78	1 976	5.32	58	77	31	25 300	46	16.37
1974 ASM----	11 211	16 260	78	2 082	4.85	56	74	26	27 349	40	16.65
1973 ASM----	10 471	16 962	83	2 056	4.50	56	77	33	21 566	48	12.62
1972 Census--	9 696	17 019	79	2 061	4.26	59	80	37	18 509	52	11.30
1971 ASM----	8 886	16 264	78	2 084	3.76	57	79	40	17 273	51	10.58
1970 ASM----	8 279	15 369	79	2 113	3.48	57	80	42	15 657	52	9.34
1969 ASM----	8 018	14 891	80	2 112	3.42	58	80	41	15 054	53	8.88
1968 ASM----	7 690	13 936	80	2 147	3.23	59	81	39	14 263	53	8.30
1967 Census--	7 198	12 284	78	2 131	3.08	59	82	38	12 982	55	7.76
1966 ASM----	6 831	(NA)	81	2 051	2.93	59	81	(NA)	12 285	55	7.34
1965 ASM----	6 718	(NA)	81	2 022	2.91	59	81	(NA)	12 781	52	7.72
1964 ASM----	6 723	11 133	80	2 095	2.88	61	83	36	11 885	56	7.09
1963 Census--	6 342	10 514	80	2 082	2.77	60	82	36	11 390	55	6.75
INDUSTRY 3421, CUTLERY											
1977 Census--	10 746	(NA)	81	1 938	5.03	30	53	(NA)	33 126	32	20.93
1976 ASM----	9 790	12 692	79	1 926	4.63	31	53	28	30 803	31	20.05
1975 ASM----	9 321	13 321	80	1 920	4.29	32	54	31	28 950	32	18.67
1974 ASM----	8 540	12 573	82	2 008	3.77	28	52	34	27 093	31	16.32
1973 ASM----	7 970	12 514	82	2 017	3.42	26	50	36	24 867	32	14.96
1972 Census--	7 656	12 119	81	2 045	3.27	26	50	37	24 052	31	14.45
1971 ASM----	7 155	11 409	79	1 938	3.22	24	48	37	22 762	31	14.77
1970 ASM----	7 228	11 000	78	2 020	3.03	25	50	38	21 661	33	13.61
1969 ASM----	6 821	10 776	79	1 988	2.98	24	47	36	21 678	31	13.71
1968 ASM----	6 112	10 543	81	1 978	2.69	24	47	39	20 060	30	12.37
1967 Census--	6 169	9 253	80	1 971	2.65	27	48	31	21 253	29	13.47
1966 ASM----	5 839	(NA)	77	2 018	2.54	28	50	(NA)	19 715	29	12.62
1965 ASM----	5 633	(NA)	77	2 036	2.41	27	50	(NA)	18 077	31	11.45
1964 ASM----	5 550	7 966	78	2 118	2.25	27	49	32	18 194	30	10.89
1963 Census--	5 449	7 212	80	2 031	2.27	25	48	30	18 135	30	11.08
INDUSTRY 3423, HAND AND EDGE TOOLS, N.E.C.											
1977 Census--	12 056	(NA)	78	1 974	5.41	39	64	(NA)	30 255	39	19.51
1976 ASM----	11 320	12 703	78	1 950	5.09	37	63	28	27 859	40	18.21
1975 ASM----	10 850	12 247	78	1 959	4.86	39	66	30	24 355	44	15.84
1974 ASM----	10 097	9 664	79	1 973	4.57	41	70	27	21 590	46	13.76
1973 ASM----	9 236	8 606	78	1 987	4.14	39	67	26	19 876	46	12.67
1972 Census--	8 727	8 674	79	1 993	3.88	38	66	27	19 847	43	12.58
1971 ASM----	8 030	8 733	79	2 000	3.54	38	66	30	17 912	44	11.26
1970 ASM----	7 631	8 411	79	1 996	3.39	38	68	32	16 368	46	10.30
1969 ASM----	7 338	8 094	79	2 006	3.26	37	66	31	16 175	45	10.13
1968 ASM----	6 858	8 169	79	2 010	2.99	37	65	33	15 016	45	9.40
1967 Census--	6 487	7 810	79	2 017	2.86	38	66	34	14 189	45	8.79
1966 ASM----	6 447	(NA)	78	2 093	2.78	38	68	(NA)	13 471	47	8.15
1965 ASM----	6 011	(NA)	78	2 025	2.70	38	68	(NA)	12 898	46	8.11
1964 ASM----	5 905	5 987	77	2 027	2.65	38	68	31	11 926	49	7.57
1963 Census--	5 612	5 841	77	1 987	2.58	36	67	32	11 565	48	7.48

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3425, HAND SAWS AND SAW BLADES										
1977 Census--	12 475	(NA)	75	1 994	5.49	37	63	(NA)	30 508	40	20.18
1976 ASM----	11 735	16 970	73	2 020	5.22	40	66	37	27 529	42	18.53
1975 ASM----	11 193	16 935	69	1 976	5.11	36	63	41	26 016	43	18.97
1974 ASM----	9 694	13 236	72	1 961	4.27	35	61	36	24 166	40	17.05
1973 ASM----	9 171	11 014	77	2 111	4.00	38	66	34	20 471	44	12.57
1972 Census--	8 590	10 378	74	2 020	3.78	36	65	35	19 318	44	12.87
1971 ASM----	8 171	9 657	72	2 000	3.31	34	65	36	17 614	46	12.08
1970 ASM----	6 462	7 301	73	2 058	2.67	35	69	38	12 333	52	8.19
1969 ASM----	7 388	9 283	77	2 038	3.25	36	64	35	17 194	42	10.86
1968 ASM----	7 015	9 285	74	2 106	3.12	37	65	36	15 936	44	10.14
1967 Census--	6 888	8 777	76	2 104	2.92	37	65	35	15 412	44	9.61
1966 ASM----	6 596	(NA)	77	2 166	2.75	34	62	(NA)	16 048	41	9.56
1965 ASM----	6 403	(NA)	78	2 088	2.67	35	64	(NA)	14 333	44	8.69
1964 ASM----	6 260	7 000	74	2 081	2.62	37	66	32	13 620	45	8.84
1963 Census--	5 705	6 470	74	2 026	2.54	37	65	32	12 862	44	8.51
	INDUSTRY 3429, HARDWARE, N.E.C.										
1977 Census--	13 693	(NA)	78	2 012	6.23	43	69	(NA)	30 557	44	19.34
1976 ASM----	12 656	14 646	77	1 994	5.75	42	68	30	28 178	44	18.25
1975 ASM----	11 338	15 370	77	1 929	5.26	42	69	36	23 755	47	16.25
1974 ASM----	10 276	12 812	74	2 037	4.66	43	71	34	21 706	47	14.33
1973 ASM----	9 708	11 842	78	2 022	4.37	41	69	34	20 711	46	12.98
1972 Census--	9 035	11 386	78	2 029	3.95	39	66	35	20 256	44	12.65
1971 ASM----	8 501	11 257	76	2 106	3.62	39	67	37	18 049	47	11.14
1970 ASM----	7 876	11 170	75	2 127	3.31	41	71	42	15 586	50	9.70
1969 ASM----	7 551	9 889	78	2 014	3.37	41	69	37	15 727	48	9.90
1968 ASM----	7 302	9 579	79	2 162	3.05	41	70	37	14 816	49	8.62
1967 Census--	6 812	9 434	79	2 142	2.87	40	69	40	14 241	47	8.37
1966 ASM----	6 575	(NA)	79	2 034	2.91	40	69	(NA)	13 614	48	8.39
1965 ASM----	6 481	(NA)	80	2 067	2.85	41	70	(NA)	13 212	49	7.97
1964 ASM----	6 265	7 927	79	2 025	2.82	41	71	37	12 430	50	7.69
1963 Census--	6 006	7 570	79	2 074	2.63	40	70	37	12 073	49	7.30

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3411, METAL CANS													
United States	-	**403**	**300**	**59.8**	**1 066.3**	**50.2**	**106.4**	**870.8**	**3 154.3**	**5 068.7**	**8 142.8**	**176.9**	**58.5**	**1 815.8**
New England Division:													
Massachusetts	-	4	4	0.5	8.7	0.5	1.0	7.2	23.3	43.5	66.7	0.7	0.8	21.7
Connecticut	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	21	8	1.5	27.3	1.3	2.6	22.6	67.9	107.1	172.8	10.6	(NA)	(D)
New Jersey	-	28	24	4.2	78.8	3.5	7.3	63.4	223.9	288.1	513.2	6.8	7.0	172.6
Pennsylvania	-	22	17	3.5	60.4	3.1	6.4	51.7	161.1	268.4	423.3	1.9	(NA)	(D)
East North Central Division:														
Ohio	-	24	21	4.4	66.2	3.6	7.5	51.8	231.5	314.3	542.7	23.8	3.3	101.8
Indiana	-	9	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	28	25	6.8	122.2	5.8	12.1	100.6	325.5	368.9	683.2	19.8	9.7	209.1
Michigan	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	22.5
Wisconsin	-	17	14	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	11	8	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.6	60.7
Iowa	-	4	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	9	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	15	13	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	5	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	12	8	1.7	22.7	1.4	3.0	18.8	59.1	111.4	168.2	2.7	(NA)	(D)
Florida	-	16	12	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.5	73.9
East South Central Division:														
Tennessee	-	11	5	0.5	7.8	0.4	0.9	6.1	34.6	63.5	97.7	(D)	0.4	16.9
Alabama	E1	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	4	3	0.3	4.5	0.3	0.5	3.6	22.4	20.9	43.3	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	25	22	3.6	67.8	3.0	6.5	54.1	207.0	404.4	607.8	9.5	3.3	123.4
Mountain Division:														
Colorado	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	6	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oregon	-	8	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	64	47	9.1	172.8	7.9	16.5	147.1	513.2	844.0	1 344.8	19.1	(NA)	(D)
Hawaii	-	3	3	0.4	4.9	0.3	0.7	4.2	11.2	43.8	55.8	(D)	(NA)	(D)
INDUSTRY 3412, METAL BARRELS, DRUMS, AND PAILS														
United States	-	**184**	**113**	**12.4**	**180.3**	**9.8**	**20.1**	**128.8**	**389.6**	**551.2**	**937.1**	**31.8**	**10.2**	**188.8**
Middle Atlantic Division:														
New York	E3	6	4	0.3	3.4	0.2	0.5	2.9	7.6	9.9	17.1	0.1	(NA)	(D)
New Jersey	-	17	14	2.0	28.8	1.5	3.1	19.3	60.9	85.5	145.5	2.3	1.4	26.0
Pennsylvania	-	11	8	0.7	8.0	0.6	1.1	5.9	23.3	31.9	54.8	1.0	(NA)	(D)
East North Central Division:														
Ohio	-	23	15	1.1	16.7	0.9	1.8	11.3	35.5	54.0	91.0	1.8	1.5	26.8
Indiana	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	20	17	2.7	43.7	2.1	4.5	31.1	78.1	114.0	192.9	6.8	1.7	33.9
Wisconsin	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Kansas	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	E1	5	2	0.2	2.1	0.1	0.3	1.3	3.6	5.6	8.7	(D)	(NA)	(NA)
Alabama	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	5	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	14	9	1.0	13.0	0.8	1.6	9.4	34.8	51.2	85.5	2.7	0.7	13.7
Pacific Division:														
California	-	22	12	1.1	16.8	0.9	1.8	13.2	38.3	54.2	93.3	2.0	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3421, CUTLERY													
United States	-	**130**	**62**	**14.9**	**159.6**	**12.1**	**23.5**	**118.3**	**492.0**	**219.1**	**711.4**	**23.3**	**13.4**	**322.3**
New England Division:													
Massachusetts	-	8	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Rhode Island	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	10	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	19	13	2.6	21.2	2.0	3.9	15.3	47.7	31.4	75.8	4.1	1.8	22.6
New Jersey	-	11	7	1.8	20.1	1.4	2.9	14.4	40.9	32.5	71.0	3.0	2.1	34.4
Pennsylvania	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	7.5
East North Central Division:														
Ohio	-	9	5	0.6	8.0	0.5	1.0	5.7	17.4	11.3	28.1	0.4	0.6	9.3
South Atlantic Division:														
Virginia	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	1.1
West South Central Division:														
Arkansas	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Oregon	E1	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	11	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3423, HAND AND EDGE TOOLS, N.E.C.														
United States	-	**724**	**296**	**47.0**	**566.4**	**36.9**	**72.8**	**394.7**	**1 421.4**	**898.7**	**2 279.2**	**72.0**	**39.3**	**780.0**
New England Division:														
Vermont	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	-	54	25	4.0	49.1	3.3	6.7	35.9	102.3	64.2	145.7	6.5	(NA)	(D)
Connecticut	-	24	16	2.4	32.0	1.6	3.2	18.1	91.6	44.7	139.2	4.9	3.7	86.7
Middle Atlantic Division:														
New York	-	60	25	4.3	51.6	3.5	7.1	37.2	110.0	74.7	180.1	5.6	4.5	70.7
New Jersey	-	32	16	2.1	24.0	1.7	3.4	16.6	65.3	31.3	96.0	(D)	1.6	30.5
Pennsylvania	-	42	19	3.1	36.6	2.4	4.7	26.2	74.0	51.6	128.5	2.8	2.9	52.3
East North Central Division:														
Ohio	-	68	36	5.7	73.5	4.5	8.9	53.3	209.4	121.5	330.3	9.0	5.2	112.4
Indiana	-	21	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	58	24	3.7	48.7	3.1	5.8	36.5	143.3	69.3	209.9	7.6	3.6	92.1
Michigan	E1	51	17	1.3	16.3	0.9	1.7	9.4	37.3	22.8	59.1	1.2	1.0	19.8
Wisconsin	-	26	11	1.9	28.2	1.3	2.3	16.0	71.7	102.1	173.7	4.1	(NA)	(D)
West North Central Division:														
Minnesota	-	14	6	1.9	24.2	1.4	2.9	15.8	49.2	30.2	79.0	1.5	1.6	26.1
Iowa	E1	13	3	0.4	5.0	0.3	0.6	3.6	10.9	7.9	18.8	0.3	(NA)	(D)
Missouri	E2	24	13	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	10	4	0.5	4.8	0.4	0.7	2.9	13.1	16.7	29.5	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	E1	7	3	0.2	1.9	0.2	0.3	1.3	3.9	3.2	7.0	(D)	(NA)	(NA)
South Carolina	-	7	6	2.8	27.1	2.3	4.5	19.2	73.6	35.9	105.2	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	9	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	23	4	0.8	8.1	0.6	1.2	5.3	18.4	17.4	35.1	1.8	(NA)	(NA)
Mountain Division:														
Colorado	-	9	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Oregon	-	7	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	E1	83	29	2.7	32.3	1.9	3.9	19.7	74.8	44.7	118.3	4.9	2.5	53.5
INDUSTRY 3425, HAND SAWS AND SAW BLADES														
United States	-	**115**	**55**	**7.6**	**94.3**	**5.7**	**11.4**	**62.7**	**230.6**	**137.6**	**363.3**	**13.4**	**6.6**	**127.5**
New England Division:														
Massachusetts	-	6	4	1.3	19.8	0.9	1.9	13.0	53.4	33.1	85.6	(D)	(NA)	(D)
Connecticut	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	10	5	0.5	4.8	0.4	0.7	3.0	9.5	5.5	14.6	0.3	0.9	15.1
Pennsylvania	-	8	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.6
East North Central Division:														
Ohio	-	11	5	0.4	4.7	0.4	0.7	3.4	10.3	6.7	17.2	0.6	0.4	4.6
Illinois	-	10	5	0.4	5.1	0.3	0.7	3.4	18.6	7.5	26.1	0.4	0.3	10.5

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3425, HAND SAWS AND SAW BLADES—Con.													
West North Central Division:													
Missouri	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:													
North Carolina	-	7	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Oregon	-	6	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.1	24.0
INDUSTRY 3429, HARDWARE, N.E.C.														
United States	-	**1 168**	**464**	**99.2**	**1 359.0**	**77.9**	**156.8**	**977.7**	**3 032.6**	**2 239.0**	**5 202.6**	**190.2**	**99.9**	**2 023.6**
New England Division:														
Massachusetts	-	37	16	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	56	28	8.3	98.0	6.1	11.8	65.5	218.3	122.0	333.1	7.9	9.8	149.9
Middle Atlantic Division:														
New York	-	98	37	6.1	86.8	4.6	9.2	59.0	203.2	142.9	343.0	10.9	6.7	137.1
New Jersey	-	36	11	5.4	91.8	4.6	9.2	73.9	201.9	106.8	306.0	(D)	4.9	114.1
Pennsylvania	E1	62	28	3.1	33.5	2.5	4.8	24.0	77.5	58.3	135.9	2.8	3.8	54.1
East North Central Division:														
Ohio	-	68	37	9.3	179.8	7.9	16.3	144.5	388.2	268.5	651.7	(D)	9.9	291.2
Indiana	-	39	21	4.0	45.2	3.2	6.2	31.4	110.3	104.3	211.6	6.1	3.1	58.1
Illinois	-	98	54	11.2	134.9	8.3	15.5	84.2	308.6	205.8	512.7	22.3	14.4	243.4
Michigan	-	97	46	16.2	282.8	12.9	26.4	212.5	603.3	595.5	1 170.8	38.2	(NA)	(D)
Wisconsin	-	36	18	4.3	56.9	3.3	6.4	41.7	137.9	84.8	222.2	6.7	(NA)	(D)
West North Central Division:														
Minnesota	E1	24	7	1.1	12.3	0.9	1.6	8.4	31.1	23.2	53.9	1.7	(NA)	(D)
Iowa	-	10	4	0.3	2.4	0.2	0.4	1.6	7.9	11.3	19.8	0.7	0.8	13.5
Missouri	-	16	5	0.9	12.2	0.7	1.4	7.6	26.3	16.3	42.8	0.7	1.3	19.5
South Dakota	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	7	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	25	13	2.3	22.7	1.9	3.7	15.5	50.4	37.4	84.4	2.8	1.7	29.0
South Carolina	E2	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	12	2	0.2	2.3	0.2	0.3	1.6	4.2	6.4	11.1	(D)	(NA)	(D)
Florida	-	34	7	1.5	15.3	1.1	2.1	12.1	36.4	28.4	64.6	2.0	1.1	19.7
East South Central Division:														
Kentucky	-	11	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	9	5	2.9	32.0	2.2	4.3	20.8	68.2	33.9	101.8	(D)	2.8	46.4
Alabama	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	5.9
Mississippi	-	7	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	7	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	E2	43	14	0.8	7.3	0.6	1.1	4.9	15.7	17.5	33.1	2.3	(NA)	(D)
Mountain Division:														
Colorado	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	E4	22	3	0.3	3.5	0.2	0.5	2.5	7.1	5.1	12.2	(D)	(NA)	(D)
Oregon	-	20	8	1.5	14.6	1.3	2.2	11.5	30.6	27.4	58.5	2.4	(NA)	(D)
California	-	219	67	12.3	150.4	9.5	22.3	106.6	342.8	210.8	546.5	18.5	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Metal cans (SIC 3411)	Metal barrels, drums, and pails (SIC 3412)	Cutlery (SIC 3421)	Hand and edge tools, n.e.c. (SIC 3423)	Handsaws and saw blades (SIC 3425)	Hardware, n.e.c. (SIC 3429)
Primary product specialization ratio[1]	percent	96	94	92	91	86	94
Coverage ratio[2]	do	98	90	94	90	77	94
All establishments	number	403	184	130	724	115	1 168
With 1 to 19 employees	do	103	71	68	428	60	704
With 20 to 99 employees	do	117	72	24	196	34	280
With 100 employees or more	do	183	41	38	100	21	184
All employees, average for year	1,000	59.8	12.4	14.9	47.0	7.6	99.2
Payroll for year, all employees	mil. dol.	1 066.3	180.3	159.6	566.4	94.3	1 359.0
Production workers:							
Average for year	1,000	50.2	9.8	12.1	36.9	5.7	77.9
March	do	50.2	9.6	12.2	35.1	5.5	75.4
May	do	50.3	9.9	12.1	36.8	5.6	77.0
August	do	52.4	10.1	11.9	37.6	5.8	77.4
November	do	47.6	9.7	12.3	38.1	6.0	81.7
Hours	millions	106.4	20.1	23.5	72.8	11.4	156.8
January to March	do	25.5	4.7	5.9	17.5	2.7	37.9
April to June	do	27.4	5.2	6.0	18.5	2.9	39.1
July to September	do	29.0	5.3	5.6	17.9	2.8	38.7
October to December	do	24.6	5.0	6.0	19.0	3.0	41.0
Wages	mil. dol.	870.8	128.8	118.3	394.7	62.7	977.7
Cost of materials, etc.	do	5 068.7	551.2	219.1	898.7	137.6	2 239.0
Materials, parts, containers, etc., consumed	do	4 643.4	526.6	172.8	642.0	116.1	2 059.8
Resales	do	313.4	3.2	17.2	184.3	14.7	68.0
Fuels consumed	do	50.2	8.8	5.0	17.2	1.5	24.9
Purchased electric energy	do	53.3	7.7	5.4	18.8	3.9	41.1
Contract work	do	8.4	2.8	18.6	36.4	1.5	45.3
Value of shipments, including resales	do	8 142.8	937.1	711.4	2 279.2	363.3	5 202.6
Value of resales	do	370.1	4.9	25.6	235.2	19.5	83.1
Value added by manufacture	do	3 154.3	389.6	492.0	1 421.4	230.6	3 032.6
Manufacturers' inventories:							
Beginning of year	do	889.0	132.0	129.0	437.3	68.3	750.6
Finished products	do	315.5	16.3	46.7	147.0	19.4	195.6
Work in process	do	177.0	13.5	41.4	177.1	22.8	289.8
Materials, supplies, fuel, etc.	do	396.5	102.1	40.9	113.1	26.1	265.2
End of year	do	1 032.9	135.0	132.1	487.4	75.5	849.7
Finished products	do	381.9	15.9	45.9	158.6	19.8	212.7
Work in process	do	190.8	17.6	41.9	206.5	27.3	341.8
Materials, supplies, fuel, etc.	do	460.3	101.5	44.4	122.3	28.4	295.2
Capital expenditures for plant and equipment	do	203.1	33.4	23.8	81.3	14.4	213.3
New capital expenditures	do	176.9	31.8	23.3	72.0	13.4	190.2
New buildings and other structures	do	19.6	6.1	5.0	14.1	1.4	25.4
New machinery and equipment	do	157.3	25.7	18.3	58.0	12.0	164.8
Used capital expenditures	do	26.2	1.6	0.5	9.3	1.0	23.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Metal cans (SIC 3411)		Metal barrels, drums, and pails (SIC 3412)		Cutlery (SIC 3421)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	7.5	1	(0.6)	30	0.8	5
Response coverage ratio[2] (percent)	51	(X)	52	(X)	57	(X)
Machinery	62.9	3	8.8	14	4.2	12
Response coverage ratio[2] (percent)	63	(X)	54	(X)	72	(X)
Cost of purchased communication services	7.3	5	(2.0)	2.1	1.3	9
Response coverage ratio[2] (percent)	64	(X)	54	(X)	69	(X)
Rental payments	31.8	2	6.5	6	2.3	11
Buildings and other structures	21.7	1	3.2	8	(1.4)	17
Machinery and equipment	10.1	5	3.3	7	0.9	13
Supplemental labor costs	275.7	1	38.3	3	33.4	2
Legal costs	90.1	1	14.7	3	14.4	4
Voluntary costs	185.6	1	23.6	4	19.0	4
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	360.4	1	55.3	4	56.4	5
New capital expenditures	18.6	1	6.4	12	5.5	13
Used capital expenditures	5.2	4	0.3	3	-	(X)
Retirements	5.3	2	(0.4)	68	(0.5)	15
End of year	378.9	1	61.5	4	61.5	5
Machinery and equipment:						
Beginning of year	1,811.9	1	189.6	3	134.8	5
New capital expenditures	154.1	1	26.6	7	18.5	4
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(D)	(A)
All other[3]	150.6	13	(20.7)	97	(D)	(A)
New machinery and equipment, n.s.k.[4]	(2.8)	(A)	(3.9)	(A)	(3.6)	(A)
Used capital expenditures	19.8	2	1.1	4	0.4	13
Retirements	84.4	1	7.8	9	4.4	4
End of year	1,901.4	1	209.4	3	149.2	5
Total gross value of depreciable assets:						
Beginning of year	2,172.3	1	244.9	4	191.1	5
New capital expenditures	172.7	1	33.0	7	24.0	5
Used capital expenditures	25.0	2	1.3	4	0.4	13
Retirements	89.7	1	8.2	12	4.9	5
End of year	2,280.3	1	271.0	3	210.7	5
Depreciation charges during 1977	128.5	1	16.1	3	18.5	6
Buildings and other structures	11.1	2	2.3	4	2.9	4
Machinery and equipment	117.4	1	13.8	3	15.6	6

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Hand and edge tools, n.e.c. (SIC 3423)		Hand saws and saw blades (SIC 3425)		Hardware, n.e.c. (SIC 3429)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	2.8	10	(0.7)	41	7.9	6
Response coverage ratio[2] (percent)	51	(X)	60	(X)	70	(X)
Machinery	17.1	3	3.2	14	38.7	4
Response coverage ratio[2] (percent)	52	(X)	60	(X)	78	(X)
Cost of purchased communication services	4.6	13	(0.9)	25	(48.8)	(A)
Response coverage ratio[2] (percent)	52	(X)	60	(X)	72	(X)
Rental payments	15.9	5	(1.0)	29	30.6	7
Buildings and other structures	8.3	8	(0.5)	25	14.5	13
Machinery and equipment	7.6	6	(0.5)	31	16.1	7
Supplemental labor costs	119.0	2	17.6	3	319.5	1
Legal costs	51.0	2	7.5	2	112.3	1
Voluntary costs	68.0	2	10.1	5	207.2	2
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	175.3	4	28.0	13	382.7	4
New capital expenditures	12.1	5	(2.2)	35	23.8	10
Used capital expenditures	0.7	12	(0.1)	40	(15.9)	49
Retirements	(11.8)	20	(0.2)	53	3.3	11
End of year	176.3	4	30.2	11	419.1	4
Machinery and equipment:						
Beginning of year	412.2	3	79.9	9	939.0	2
New capital expenditures	57.7	7	15.8	11	168.6	4
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(5.2)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(Z)	(A)	(5.1)	(A)
All other[3]	(47.1)	42	(D)	(A)	(132.0)	15
New machinery and equipment, n.s.k.[4]	(8.6)	(A)	(3.1)	(A)	(26.3)	76
Used capital expenditures	8.4	4	(1.1)	24	14.4	7
Retirements	(26.4)	17	(2.1)	43	67.6	4
End of year	451.8	3	94.7	8	1,054.4	2
Total gross value of depreciable assets:						
Beginning of year	587.5	3	107.9	10	1,321.8	2
New capital expenditures	69.8	6	18.0	13	192.3	4
Used capital expenditures	9.0	4	1.3	26	(30.3)	26
Retirements	(38.2)	17	(2.3)	43	70.7	4
End of year	628.1	3	124.9	9	1,473.7	1
Depreciation charges during 1977	47.9	2	8.1	11	89.3	2
Buildings and other structures	12.7	3	(1.8)	35	16.9	5
Machinery and equipment	35.2	2	6.3	6	72.4	2

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

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Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3411, METAL CANS												
Total	-	**403**	**59.8**	**1 066.3**	**50.2**	**106.4**	**870.8**	**3 154.3**	**5 068.7**	**8 142.8**	**176.9**	**1 032.9**
Establishments with an average of—												
1 to 4 employees	E9	47	0.1	1.3	0.1	0.1	1.0	1.7	5.1	8.1	0.6	1.5
5 to 9 employees	E4	27	0.2	3.0	0.2	0.3	2.4	12.7	14.0	26.8	0.7	2.8
10 to 19 employees	-	29	0.4	6.2	0.3	0.7	4.6	32.5	49.4	82.9	0.9	9.4
20 to 49 employees	-	60	2.1	35.9	1.7	3.8	28.4	208.0	311.6	520.6	(41.1)	38.5
50 to 99 employees	-	57	3.9	66.2	3.3	7.3	53.2	313.6	425.5	734.6	(D)	72.2
100 to 249 employees	-	106	17.9	308.0	15.2	32.2	253.2	1 044.3	1 519.0	2 537.1	67.6	313.8
250 to 499 employees	-	59	20.6	384.9	17.5	36.9	321.7	1 055.3	1 787.5	2 808.0	36.4	391.3
500 to 999 employees	-	15	10.1	175.3	8.8	18.6	149.0	288.1	712.3	993.3	(29.7)	142.9
1,000 to 2,499 employees	-	3	4.5	85.5	3.0	6.5	57.3	198.0	244.3	431.5	(D)	60.5
Covered by administrative records[2]	E0	61	0.3	4.1	0.2	0.4	3.4	9.2	15.4	24.6	0.5	3.1
INDUSTRY 3412, METAL BARRELS, DRUMS, AND PAILS												
Total	-	**184**	**12.4**	**180.3**	**9.8**	**20.1**	**128.8**	**389.6**	**551.2**	**937.1**	**31.8**	**135.0**
Establishments with an average of—												
1 to 4 employees	E7	29	0.1	0.9	0.1	0.1	0.6	1.9	2.5	4.4	0.1	0.7
5 to 9 employees	E2	13	0.1	1.2	0.1	0.2	0.8	2.8	3.9	6.7	0.1	1.1
10 to 19 employees	E4	29	0.4	4.9	0.3	0.6	3.5	12.1	16.3	28.0	0.8	4.4
20 to 49 employees	-	33	1.1	14.1	0.9	1.9	9.9	37.2	58.8	95.3	4.4	14.4
50 to 99 employees	-	39	2.8	40.3	2.3	4.7	29.4	93.1	148.6	240.4	10.6	33.5
100 to 249 employees	-	33	5.0	72.7	4.0	8.0	53.2	163.1	219.5	380.3	10.3	58.6
250 to 499 employees	-	7	(3.0)	(46.3)	(2.2)	(4.7)	(31.5)	(79.3)	(101.7)	(182.1)	(5.5)	(22.3)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	40	0.3	4.1	0.2	0.5	2.9	8.1	11.1	19.2	0.4	3.3
INDUSTRY 3421, CUTLERY												
Total	-	**130**	**14.9**	**159.6**	**12.1**	**23.5**	**118.3**	**492.0**	**219.1**	**711.4**	**23.3**	**132.1**
Establishments with an average of—												
1 to 4 employees	E8	30	(Z)	0.4	(Z)	0.1	0.3	1.5	0.8	2.2	0.1	0.4
5 to 9 employees	E0	15	0.1	0.9	0.1	0.1	0.7	2.7	1.3	4.0	0.1	0.8
10 to 19 employees	E8	23	0.3	3.0	0.2	0.5	2.1	7.0	3.3	10.2	0.3	2.0
20 to 49 employees	-	14	0.5	5.2	0.4	0.8	3.5	9.1	8.3	17.4	0.5	2.8
50 to 99 employees	-	10	0.7	7.6	0.6	1.1	5.1	17.2	13.5	30.6	0.3	6.1
100 to 249 employees	-	24	4.0	37.5	3.3	6.6	26.1	82.1	65.6	142.1	7.6	34.6
250 to 499 employees	-	6	1.9	20.3	1.6	3.3	15.6	48.3	30.8	77.6	3.0	17.4
500 to 999 employees	-	7	(7.3)	(84.7)	(5.8)	(11.1)	(65.0)	(324.1)	(95.5)	(427.3)	(11.4)	(68.0)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	58	0.4	3.8	0.3	0.6	2.8	9.9	4.7	14.6	0.4	3.0
INDUSTRY 3423, HAND AND EDGE TOOLS, N.E.C.												
Total	-	**724**	**47.0**	**566.4**	**36.9**	**72.8**	**394.7**	**1 421.4**	**898.7**	**2 279.2**	**72.0**	**487.4**
Establishments with an average of—												
1 to 4 employees	E8	227	0.4	4.1	0.3	0.6	2.8	5.3	6.3	17.1	0.6	3.8
5 to 9 employees	E8	87	0.6	6.7	0.5	0.9	4.7	13.2	8.2	21.2	0.6	4.6
10 to 19 employees	E7	114	1.6	17.9	1.2	2.4	11.9	40.7	23.9	64.5	1.8	13.0
20 to 49 employees	E1	115	3.5	42.0	2.8	5.2	26.9	89.5	56.0	144.7	4.3	26.8
50 to 99 employees	-	81	5.6	63.6	4.5	9.0	43.6	143.0	96.3	237.2	6.5	47.0
100 to 249 employees	-	49	7.8	86.9	6.2	12.1	62.1	203.6	141.2	343.6	11.6	69.5
250 to 499 employees	-	29	10.1	125.2	7.9	15.8	87.2	322.7	211.2	523.5	17.0	131.7
500 to 999 employees	-	16	10.0	115.3	8.1	15.8	85.9	346.6	151.2	491.2	16.3	104.7
1,000 to 2,499 employees	-	6	7.5	104.8	5.4	11.1	69.5	256.9	204.4	436.3	13.3	86.3
Covered by administrative records[2]	E0	364	2.2	24.7	1.8	3.4	17.2	55.1	32.9	88.0	2.5	19.8
INDUSTRY 3425, HAND SAWS AND SAW BLADES												
Total	-	**115**	**7.6**	**94.3**	**5.7**	**11.4**	**62.7**	**230.6**	**137.6**	**363.3**	**13.4**	**75.5**
Establishments with an average of—												
1 to 4 employees	E9	26	0.1	0.6	(Z)	0.1	0.4	1.3	0.9	2.1	0.1	0.5
5 to 9 employees	E8	10	0.1	0.8	0.1	0.1	0.5	1.4	1.0	2.5	0.1	0.6
10 to 19 employees	E5	24	0.3	3.5	0.2	0.5	2.2	8.2	6.7	14.7	0.6	2.7
20 to 49 employees	-	22	0.7	7.9	0.5	1.1	5.3	16.5	11.1	27.4	0.7	4.8
50 to 99 employees	-	12	0.8	10.2	0.6	1.2	6.5	25.1	14.1	37.9	1.3	9.4
100 to 249 employees	-	14	2.4	27.4	1.9	3.7	17.7	67.2	41.9	108.6	4.3	22.1
250 to 499 employees	-	5	(3.2)	(44.0)	(2.4)	(4.8)	(30.1)	(110.9)	(61.9)	(170.2)	(6.3)	(35.4)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	46	0.3	3.5	0.3	0.5	2.4	6.6	4.9	11.6	0.4	2.7
INDUSTRY 3429, HARDWARE, N.E.C.												
Total	-	**1 168**	**99.2**	**1 359.0**	**77.9**	**156.8**	**977.7**	**3 032.6**	**2 239.0**	**5 202.6**	**190.2**	**849.7**
Establishments with an average of—												
1 to 4 employees	E8	391	0.6	7.8	0.6	1.0	5.3	15.9	15.6	34.1	1.4	6.1
5 to 9 employees	E7	145	1.0	12.2	0.8	1.5	8.1	27.2	21.5	48.4	1.7	9.1
10 to 19 employees	E5	168	2.4	28.7	1.8	3.5	18.8	63.5	61.8	126.0	3.3	21.5
20 to 49 employees	E1	172	5.6	67.1	4.3	8.4	42.1	149.5	133.7	282.2	10.1	43.8
50 to 99 employees	-	108	7.8	81.9	6.0	11.5	51.8	193.1	173.1	365.2	13.1	65.5
100 to 249 employees	-	98	15.4	165.3	12.1	23.6	111.7	399.6	330.6	715.4	24.0	143.9
250 to 499 employees	-	48	16.6	183.3	13.1	25.5	130.0	407.2	293.1	693.9	17.3	140.1
500 to 999 employees	-	23	15.7	196.8	12.3	23.5	137.2	425.4	299.3	715.8	17.2	152.3
1,000 to 2,499 employees	-	9	(34.1)	(615.9)	(27.0)	(58.2)	(472.7)	(1 351.2)	(910.4)	(2 221.5)	(102.2)	(267.4)
2,500 employees or more	-	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	553	3.2	39.0	2.5	4.9	26.7	83.8	64.7	148.5	4.6	26.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3411	**Metal cans:**										
	Entire industry	403	59.8	1 066.3	50.2	106.4	870.8	3 154.3	5 068.7	8 142.8	176.9
	Establishments with 75 percent specialization or more	380	55.4	993.8	46.5	98.5	812.4	2 929.8	4 711.2	7 560.5	171.1
34113	Steel cans, tinplate:										
	Establishments with this product class primary	253	42.3	739.6	36.1	76.3	612.1	2 219.7	3 411.9	5 576.9	87.6
	Establishments with 75 percent specialization or more in class	224	32.8	575.4	27.9	58.9	476.3	1 888.0	2 713.8	4 561.5	77.6
34114	Aluminum cans:										
	Establishments with this product class primary	52	13.6	255.0	10.8	23.2	199.5	765.2	1 170.5	1 915.6	84.8
	Establishments with 75 percent specialization or more in class	38	8.0	148.8	6.8	14.4	123.4	421.9	728.7	1 140.1	(D)
34115	Metal can lids, ends, and parts shipped separately:										
	Establishments with this product class primary	15	3.0	56.6	2.6	5.2	46.7	125.1	435.4	553.9	2.8
	Establishments with 75 percent specialization or more in class	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3412	**Metal barrels, drums, and pails:**										
	Entire industry	184	12.4	180.3	9.8	20.1	128.8	389.6	551.2	937.1	31.8
	Establishments with 75 percent specialization or more	172	10.6	155.6	8.4	17.1	112.0	341.0	481.8	817.0	24.9
34121	Steel pails, 12-gallon capacity and under:										
	Establishments with this product class primary	24	3.7	55.2	2.9	6.1	37.9	102.8	146.9	250.9	6.1
	Establishments with 75 percent specialization or more in class	16	1.8	23.7	1.5	2.9	17.1	55.5	68.5	122.7	1.8
34122	Steel shipping barrels and drums, over 12-gallon capacity:										
	Establishments with this product class primary	80	6.6	98.3	5.3	11.0	72.2	229.3	347.7	571.5	(D)
	Establishments with 75 percent specialization or more in class	69	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34123	Other metal barrels:										
	Establishments with this product class primary	14	1.3	16.4	1.0	1.8	11.3	37.2	28.4	66.5	3.1
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3421	**Cutlery:**										
	Entire industry	130	14.9	159.6	12.1	23.5	118.3	492.0	219.1	711.4	23.3
	Establishments with 75 percent specialization or more	122	14.1	149.5	11.5	22.4	111.9	469.0	206.8	677.3	22.4
34211	Cutlery, scissors, shears, trimmers, and snips:										
	Establishments with this product class primary	60	10.1	98.3	8.2	16.3	71.7	209.5	133.6	337.4	11.8
	Establishments with 75 percent specialization or more in class	52	9.3	88.2	7.5	15.1	65.3	186.5	121.4	303.3	10.9
34212	Razor blades and razors, except electric:										
	Establishments with this product class primary	7	4.4	57.4	3.6	6.6	43.8	272.5	80.6	359.1	(D)
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	43.7	272.3	80.5	358.8	(D)
3423	**Hand and edge tools, n.e.c.:**										
	Entire industry	724	47.0	566.4	36.9	72.8	394.7	1 421.4	898.7	2 279.2	72.0
	Establishments with 75 percent specialization or more	661	38.1	453.8	29.8	58.3	313.7	1 154.8	689.7	1 805.8	54.3
34231	Mechanics' hand service tools:										
	Establishments with this product class primary	114	24.8	298.3	19.4	38.5	206.8	739.5	495.4	1 191.3	38.5
	Establishments with 75 percent specialization or more in class	84	19.2	231.2	14.8	29.1	158.3	595.9	375.5	933.4	28.4
34232	Edge tools, hand operated:										
	Establishments with this product class primary	99	7.7	99.1	6.0	12.1	66.8	235.4	139.3	372.2	12.0
	Establishments with 75 percent specialization or more in class	75	4.2	52.9	3.3	6.3	34.6	108.0	65.0	169.3	4.2
34233	Other hand tools, n.e.c.:										
	Establishments with this product class primary	78	10.8	129.2	8.6	16.8	93.8	362.6	201.3	564.1	16.3
	Establishments with 75 percent specialization or more in class	63	8.6	103.1	6.7	13.2	73.5	299.0	146.1	447.9	13.5
3425	**Hand saws and saw blades:**										
	Entire industry	115	7.6	94.3	5.7	11.4	62.7	230.6	137.6	363.3	13.4
	Establishments with 75 percent specialization or more	104	5.7	69.8	4.3	8.6	45.7	173.8	96.3	265.5	9.4
3429	**Hardware, n.e.c.:**										
	Entire industry	1 168	99.2	1 359.0	77.9	156.8	977.7	3 032.6	2 239.0	5 202.6	190.2
	Establishments with 75 percent specialization or more	1 085	90.6	1 263.8	71.2	143.2	912.0	2 832.6	2 080.3	4 843.2	180.1
34292	Furniture hardware, except cabinet:										
	Establishments with this product class primary	43	6.8	74.8	5.4	10.7	51.2	147.8	122.0	265.0	6.6
	Establishments with 75 percent specialization or more in class	32	4.3	43.1	3.5	6.8	30.2	83.2	74.1	154.1	4.2
34293	Vacuum and insulated bottles, jugs, and chests:										
	Establishments with this product class primary	12	3.2	37.7	2.3	4.4	22.1	80.1	49.6	127.8	6.7
	Establishments with 75 percent specialization or more in class	7	1.8	21.3	1.3	2.5	12.1	43.0	24.9	67.4	(D)
34294	Builders' hardware:										
	Establishments with this product class primary	171	34.5	405.2	26.1	53.6	272.2	928.9	564.5	1 470.7	59.8
	Establishments with 75 percent specialization or more in class	145	29.7	348.3	22.5	46.2	232.8	819.7	480.5	1 276.3	54.4
34296	Motor vehicle hardware:										
	Establishments with this product class primary	69	33.5	596.3	27.6	56.3	468.3	1 328.6	1 048.8	2 340.6	89.4
	Establishments with 75 percent specialization or more in class	58	29.1	535.6	24.6	50.4	430.4	1 215.2	971.6	2 157.9	79.6
34297	Other transportation equipment hardware:										
	Establishments with this product class primary	46	2.9	35.0	2.2	4.5	23.2	83.5	51.2	134.1	3.1
	Establishments with 75 percent specialization or more in class	37	1.5	16.6	1.1	2.1	10.6	37.1	25.5	62.1	2.3
34298	Other hardware, n.e.c.:										
	Establishments with this product class primary	132	13.1	146.9	10.2	19.3	97.7	331.7	301.7	628.8	17.2
	Establishments with 75 percent specialization or more in class	102	9.7	110.6	7.7	14.3	73.4	254.8	237.6	490.3	13.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3411	Metal cans.....1977..	8,142.8	7,276.7	285.5	580.6	96	7,414.7	7,276.7	138.0	98
	1972..	4,510.8	4,181.3	151.7	177.8	96	4,224.4	4,181.3	43.1	99
	1967..	2,890.6	2,533.9	276.4	80.3	90	2,585.7	2,533.9	51.8	98
3412	Metal barrels, drums, and pails.....1977..	937.1	855.5	55.2	26.5	94	948.2	855.5	92.7	90
	1972..	461.3	438.2	13.3	9.8	97	509.4	438.2	71.2	86
	1967..	370.7	331.4	28.8	10.5	92	378.2	331.4	46.8	88
3421	Cutlery.....1977..	711.4	629.3	55.5	26.5	92	666.9	629.3	37.6	94
	1972..	427.5	379.0	35.5	13.0	91	403.9	379.0	24.9	94
	1967..	378.5	293.5	77.2	7.8	79	308.9	293.5	15.4	95
3423	Hand and edge tools, n.e.c.....1977..	2,279.2	1,851.2	175.8	252.2	91	2,066.1	1,851.2	214.9	90
	1972..	1,233.1	979.4	118.6	135.1	89	1,114.0	979.4	134.6	88
	1967..	813.5	661.1	51.1	101.3	93	775.1	661.1	114.0	85
3425	Hand saws and saw blades.....1977..	363.3	284.6	47.1	31.6	86	369.3	284.6	84.7	77
	1972..	194.4	154.5	26.8	13.0	85	201.8	154.5	47.3	77
	1967..	154.3	112.8	28.8	12.7	80	138.0	112.8	25.2	82
3429	Hardware, n.e.c.....1977..	5,202.6	4,766.4	295.9	140.3	94	5,082.5	4,766.4	316.1	94
	1972..	3,239.4	2,923.0	190.3	126.1	94	3,089.5	2,923.0	166.5	95
	1967..	2,368.3	2,073.6	202.4	92.3	91	2,188.2	2,073.6	114.6	95

n.e.c. Not elsewhere classified.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977**

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Metal cans (SIC 3411)	Metal barrels, drums, and pails (SIC 3412)	Cutlery (SIC 3421)	Hand and edge tools, n.e.c. (SIC 3423)	Hand saws and saw blades (SIC 3425)	Hardware, n.e.c. (SIC 3429)	Other industries
	Total	(X)	8,142.8	937.1	711.4	2,279.2	363.3	5,202.6	(X)
	Primary products	(X)	7,276.7	855.5	629.3	1,851.2	284.6	4,766.4	(X)
	Secondary products	(X)	285.5	55.2	55.5	175.8	47.1	295.9	(X)
	Miscellaneous receipts	(X)	580.6	26.5	26.5	252.2	31.6	140.3	(X)
3411-	Metal cans	7,414.7	7,276.7	18.9	-	-	-	-	119.1
34113	Steel cans, tinplate	4,852.6	4,800.8	(D)	-	-	-	-	(D)
34114	Aluminum cans	1,620.4	1,576.1	-	-	-	-	-	44.3
34115	Metal can lids, ends, parts, shipped separately	895.4	855.6	(D)	-	-	-	-	(D)
34110	Metal cans, n.s.k	46.2	44.2	-	-	-	-	-	2.1
3412-	Metal barrels, drums, and pails	948.2	20.6	855.5	-	-	-	(D)	(D)
34121	Steel pails (12-gallon capacity and under)	272.9	19.4	221.9	-	-	-	(D)	(D)
34122	Steel shipping barrels and drums (over 12-gallon capacity)	548.4	1.3	517.9	-	-	-	-	29.2
34123	All other metal barrels	84.0	-	74.6	-	-	-	-	9.3
34120	Metal barrels, drums, and pails, n.s.k	43.0	-	41.1	-	-	-	-	1.9
3421-	Cutlery	666.9	-	-	629.3	(D)	(D)	(D)	(D)
34211	Cutlery, scissors, shears, trimmers, and snips	344.7	-	-	307.3	(D)	(D)	(D)	(D)
34212	Razor blades and razors, except electric	307.4	-	-	307.4	-	-	-	-
34210	Cutlery, n.s.k	14.8	-	-	14.7	.1	-	-	-
3423-	Hand and edge tools, n.e.c	2,066.1	-	-	7.9	1,851.2	(D)	(D)	183.1
34231	Mechanics' hand service tools	1,070.2	-	-	(D)	962.9	(D)	(D)	99.6
34232	Edge tools, hand operated	327.6	-	-	3.8	284.7	(D)	(D)	24.3
34233	Other hand tools, n.e.c	524.3	-	-	(D)	470.2	(D)	1.9	50.6
34230	Hand and edge tools, n.e.c., n.s.k	144.0	-	-	-	133.4	1.8	.2	8.6
34250	Hand saws, saw blades, and accessories	369.3	-	-	(D)	(D)	284.6	-	59.8
3429-	Hardware, n.e.c	5,082.5	-	-	-	(D)	(D)	4,766.4	305.0
34292	Furniture hardware, excluding cabinet hardware	279.9	-	-	-	-	-	269.0	10.9
34293	Vacuum and insulated bottles, jugs, and chests	107.0	-	-	-	-	-	75.5	31.5
34294	Builders' hardware	1,418.9	-	-	-	(D)	-	1,341.7	(D)
34296	Motor vehicle hardware	2,220.0	-	-	-	-	-	2,135.1	84.8
34297	Other transportation equipment hardware, except motor vehicle	155.4	-	-	-	(D)	-	130.9	(D)
34298	Other hardware, n.e.c	648.5	-	-	-	(D)	(D)	578.5	(D)
34290	Hardware, n.e.c., n.s.k	252.9	-	-	-	2.5	-	235.8	14.6
	Other shipments by 4-digit product group:								
2514-	Metal household furniture	(X)	-	-	-	-	-	(D)	(X)
2541-	Wood partitions and fixtures	(X)	-	-	-	-	-	(D)	(X)
2599-	Furniture and fixtures, n.e.c	(X)	-	-	-	-	(D)	-	(X)
2643-	Bags, except textile bags	(X)	(D)	-	-	-	-	-	(X)
2655-	Fiber cans, drums, and similar products	(X)	58.8	(D)	-	-	-	-	(X)
2752-	Commercial printing, lithographic	(X)	123.2	5.2	-	-	-	-	(X)
2844-	Toilet preparations	(X)	-	-	(D)	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	10.9	(D)	(D)	-	19.6	(X)
3131-	Boot and shoe cut stock and findings	(X)	-	-	-	(D)	-	-	(X)
3229-	Pressed and blown glass, n.e.c	(X)	(D)	-	-	-	-	-	(X)
3231-	Products of purchased glass	(X)	-	-	-	-	-	(D)	(X)
3361-	Aluminum foundries	(X)	-	-	-	(D)	-	(D)	(X)
3399-	Primary metal products, n.e.c	(X)	-	-	-	(D)	-	(D)	(X)
3441-	Fabricated structural metal products	(X)	(D)	(D)	-	-	-	-	(X)
3442-	Metal doors, sash, and trim	(X)	-	-	-	(D)	-	12.7	(X)
3443-	Fabricated plate work (boiler ships)	(X)	(D)	(D)	-	(D)	(D)	- -	(X)
3451-	Screw machine products	(X)	-	-	-	(D)	(D)	- -	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	-	-	-	-	-	-	(X)
3462	Iron and steel forgings	(X)	-	-	(D)	(D)	-	(D)	(X)
3465	Automotive stampings	(X)	(D)	-	-	(D)	(D)	(Z)	(X)
3466-	Crowns and closures	(X)	(D)	-	-	-	-	-	(X)
3469-	Metal stampings, n.e.c	(X)	(D)	-	(D)	(D)	-	14.1	(X)
3479-	Metal coating products and allied services	(X)	(D)	-	(Z)	-	-	-	(X(
3483-	Ammunition, except small arms, n.e.c	(X)	-	-	-	-	-	(D)	(X)
3499-	Fabricated metal products, n.e.c	(X)	(D)	(D)	-	7.9	(D)	7.2	(X)
3537-	Industrial trucks and tractors	(X)	-	-	-	(D)	-	(D)	(X)
3541-	Machine tools, metal cutting types	(X)	-	-	(D)	(D)	(D)	(D)	(X)
3542-	Machine tools, metal forming tppes	(X)	(D)	-	(D)	-	-	(D)	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	(D)	-	-	2.6	-	(D)	(X)
3545-	Machine tool accessorees	(X)	-	-	(D)	14.9	6.9	(Z)	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977 — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Metal cans (SIC 3411)	Metal barrels, drums, and pails (SIC 3412)	Cutlery (SIC 3421)	Hand and edge tools, n.e.c. (SIC 3423)	Hand saws and saw blades (SIC 3425)	Hardware, n.e.c. (SIC 3429)	Other industries
	Other shipments by 4-digit product group--Con.								
3546-	Power driven hand tools	(X)	-	-	-	(D)	-	(D)	(X)
3549-	Metalworking machinery, n.e.c	(X)	-	-	-	-	-	(D)	(X)
3551-	Food products machinery	(X)	(D)	-	-	-	-	(D)	(X)
3553-	Woodworking machinery	(X)	-	-	-	-	(D)	-	(X)
3621-	Motors and generators	(X)	-	-	-	-	-	(D)	(X)
3634-	Electric housewares and fans	(X)	-	-	(D)	-	-	-	(X)
3643-	Current-carrying wiring devices	(X)	-	-	-	(D)	-	-	(X)
3647-	Vehicular lighting equipment	(X)	-	-	-	-	-	(D)	(X)
3662-	Radio and television communication equipment	(X)	-	-	-	(D)	-	(D)	(X)
3677-	Electronic coils and transformers	(X)	-	-	-	-	-	(D)	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	-	-	-	-	-	3.5	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	-	-	(D)	-	3.6	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	-	-	-	2.3	(X)
3728-	Aircraft equipment, n.e.c	(X)	-	-	-	-	-	(D)	(X)
3914-	Silverware and plated ware	(X)	-	-	(D)	-	-	(D)	(X)
3964-	Needles, pins, and fasteners	(X)	-	-	-	-	-	(D)	(X)
3999-	Manufacturing industries, n.e.c	(X)	-	-	(D)	(D)	-	(D)	(X)
	Miscellaneous receipts:								
93000 00	Contract work	(X)	75.1	(D)	(D)	6.6	(D)	3.7	(X)
99980 13	Sales of scrap and refuse	(X)	123.3	4.5	.5	7.8	.3	23.1	(X)
99980 61	Receipts for repair work	(X)	-	(D)	-	1.3	5.4	(D)	(X)
99980 98	Other miscellaneous receipts	(X)	12.0	5.8	(D)	1.2	(D)	(D)	(X)
99989 00	Resales	(X)	370.1	4.9	25.6	235.2	19.5	83.1	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3411-	2023 Condensed and evaporated milk	(D)
	2047 Dog, cat, and other pet food	(D)
	2086 Bottled and canned soft drinks	(D)
	2655 Fiber cans, drums, and similar products	(D)
	2752 Commercial printing, lithographic	(D)
	2911 Petroleum refining	(D)
	3444 Sheet metal work	(D)
3412-	2655 Fiber cans, drums, and similar products	(D)
	2752 Commercial printing, lithographic	(D)
	3444 Sheet metal work	(D)
	3465 Automotive stampings	(D)
	3639 Household appliances, n.e.c	(D)
3423-	3322 Malleable iron foundries	(D)
	3452 Bolts, nuts, rivets and washers	9.0
	3469 Metal stampings	(D)
	3494 Valves and pipe fittings	(D)
	3499 Fabricated metal products, n.e.c	14.8
	3542 Machine tools, metal forming types	(D)
	3545 Machine tool accessories	(D)
	3549 Metalworking machinery, n.e.c	(D)
	3579 Office machines, n.e.c	(D)
	3661 Telephone and telegraph apparatus	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3425-	3524 Lawn and garden equipment	(D)
	3545 Machine tool accessories	(D)
	3546 Power driven hand tools	(D)
3429-	2431 Millwork	13.9
	3069 Fabricated rubber products, n.e.c	(D)
	3079 Miscellaneous plastics products	10.6
	3442 Metal doors, sash, and trim	(D)
	3449 Miscellaneous metalwork	(D)
	3452 Bolts, nuts, rivets, and washers	6.3
	3462 Iron and steel forgings	(D)
	3465 Automotive stampings	(D)
	3469 Metal stampings	(D)
	3494 Valves and pipe fittings	10.9
	3533 Oil field machinery	(D)
	3585 Refrigeration and heating equipment	(D)
	3592 Carburetors, pistons, rings, and valves	(D)
	3647 Vehicular lighting equipment	(D)
	3714 Motor vehicle parts and accessories	14.3
	3728 Aircraft equipment, n.e.c	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a-1. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	METAL CANS						
3411- --	Total	.....	(NA)	(X)	7,414.7	(X)	4,224.4
34113 20 34114 20 34115 11	Metal cans, lids, ends, and parts:						
	As reported in Current Industrial Reports MA-34D, Metal Cans (see table 3b of MA-34D for detailed data)	1,000 base boxes of metal[2].	(NA)	190,009	7,167.9	140,146	4,049.4
	As reported in census of manufactures	.....	(NA)	(X)	7,353.4	(X)	4,197.3
34113 20	Steel (tinplate)	.....	73	(X)	4,837.6	(X)	(NA)
34114 20	Aluminum	.....	25	(X)	1,620.4	(X)	(NA)
34115 11	Lids, ends, and parts for metal cans shipped separately	.....	42	(X)	895.4	(X)	(NA)
34113 91	Tinware end products, including ice cream cans, but excluding cooking and kitchen utensils	.....	10	(X)	15.0	(X)	4.9
34110 00	Metal cans, n.s.k., typically for establishments with 10 employees or more	.....	(NA)	(X)	21.6	(X)	16.9
34110 02	Metal cans, n.s.k., typically for establishments with less than 10 employees	.....	(NA)	(X)	24.6	(X)	5.3
	METAL BARRELS, DRUMS, AND PAILS						
3412- --	Total	.....	(NA)	(X)	948.2	(X)	509.4
34121 --	Steel pails (12 gallon capacity and under):[3]						
	As reported in census of manufactures	.....	32	(X)	272.9	(X)	153.0
	As reported in Current Industrial Reports M-34K, Steel Drums and Pails	.....	(NA)	(NA)	257.9	106,368	135.5
	By size (diameter):						
	11 1/4 inch diameter	Thousands	(NA)	124,977	223.6	(NA)	(NA)
	By type of construction:						
34121 01	Full removable head		(NA)	[5]89,684	147.3	(NA)	(NA)
	Tight head		(NA)	35,293	76.5	(NA)	(NA)
34121 03	Standard		(NA)	[5]30,676	[5]65.1	(NA)	(NA)
34121 05	Dome top (stacking or nonstacking)		(NA)	4,617	11.4	(NA)	(NA)
	By gage:						
34121 07	26 gage and heavier, including 28/26		(NA)	[6]79,658	223.6	(NA)	(NA)
34121 09	28 and 29 gage		(NA)	45,319		(NA)	(NA)
34121 11	14 inch diameter		(NA)	[7]10,006	[7]20.7	(NA)	(NA)
34121 13	All other diameters	Thousands	(NA)	[7]2,772	[7]13.6	(NA)	(NA)
34122 --	Steel shipping barrels and drums (over 12 gallon capacity):[4]						
	As reported in census of manufactures	.....	52	(X)	548.4	(X)	292.1
	As reported in Current Industrial Reports M-34K, Steel Drums and Pails	Thousands	(NA)	(NA)	551.2	41,067	274.9
	By size (diameter):						
	14 inch diameter, all gages		(NA)	4,945	29.6	4,304	13.5
34122 01	Tight head		(NA)	850	7.0	775	3.3
34122 03	Open head, full or partial		(NA)	4,095	22.7	3,529	10.1
	All other, except 14 inch diameter:						
	20 gage and heavier		(NA)	31,609	473.9	36,763	261.4
	50 gallon and over, 18 gage and heavier		(NA)	13,655	217.8	30,134	234.8
34122 05	Tight head		(NA)	10,912	169.1	10,851	86.0
34122 07	Open head		(NA)	[6]2,743	[6]48.7	3,231	30.3
	50 gallon and over, 19 and 20 gage, including 20/18:						
34122 09	Tight head		(NA)	12,293	[6]177.3	9,359	67.8
34122 11	Open head		(NA)	2,752	38.4	2,044	15.2
34122 13	30-49 gallon		(NA)	[6]2,182	[6]25.1	4,649	35.6
34122 15	Under 30 gallon		(NA)	[5]727	[6]15.2		
	Lighter than 20 gage		(NA)	6,093	47.7	6,629	26.6
34122 17	30 gallon and over		(NA)	4,816	39.6	6,629	26.6
34122 19	Under 30 gallon	Thousands	(NA)	1,277	8.1		
34123 --	All other metal barrels	.....	(NA)	(X)	84.0	(X)	52.1
34123 13	Metal fluid milk shipping and delivery containers (except crates)	Thousands	3	(D)	78.6	(X)	52.1
34123 19	All other metal barrels, including parts for metal barrels and pails	.....	15	(X)			
34123 00	All other metal barrels, n.s.k.	.....	(NA)	(X)	5.4	-	-
34120 00	Metal barrels, drums, and pails, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	23.8	(X)	10.6
34120 02	Metal barrels, drums, and pails, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	19.2	(X)	1.6

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	CUTLERY			
3421- --	Total	(NA)	666.9	403.9
34211 --	Cutlery, scissors, shears, trimmers, and snips	(NA)	344.7	183.3
34211 11	Table cutlery (knives, forks, spoons, etc., for serving and eating food, with handles of materials other than metal, including carving sets with handles of material other than metal, excluding blades sold separately)	12	44.1	12.8
34211 21	Kitchen cutlery, including knives, forks, and cleavers	14	43.8	28.9
34211 23	Replaceable blade knives and kits, including razor-blade knives	3	1.5	([8])
34211 41	Pocket knives and other folding-blade knives	16	[9]83.6	[9]29.7
34211 53	Scissors and shears, including household types, barber shears, pinking and tailoring shears, etc., but excluding manicure, pedicure, surgical, and types reported in "All other scissors and shears"	8	36.7	30.0
34211 57	Metal-cutting shears, including aviation and tinners' snips, BX, and wire filament cutters	10	25.5	16.4
34211 59	All other scissors and shears, including hedge and grass shears and pruners	14	31.6	21.0
34211 61	Manicure and pedicure scissors and implements	9	40.1	18.8
34211 98	Other cutlery, including butchers' and meatpacking cutlery	23	37.3	[8]22.3
34211 00	Cutlery, scissors, shears, trimmers, and snips, n.s.k.	(NA)	.5	3.4
34212 --	Razor blades and razors, except electric:			
34212 00	Razor blades and razors, except electric	7	307.4	207.2
34210 00	Cutlery, n.s.k., for establishments with 20 employees or more (see note)	(NA)	.2	10.2
34210 02	Cutlery, n.s.k., for establishments with less than 20 employees (see note)	(NA)	14.6	3.2

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[10]	Value (million dollars)	Quantity	Value (million dollars)
	HAND AND EDGE TOOLS, N.E.C.						
3423- --	Total	.....	(NA)	(X)	2,066.1	(X)	1,114.0
34231 --	Mechanics' hand service tools	.....	(NA)	(X)	1,070.2	(X)	601.2
	Pliers:						
34231 12	Slip joint	Millions	14	(S)	17.6	(X)	50.9
34231 13	Solid joint		13	**14.4	45.9		
34231 21	Ball peen hammers	Millions	12	2.7	9.6	6.5	6.8
	Wrenches:						
34231 31	Sockets, including sockets, drives (ratchet and other), extensions, etc., for hand-operated wrenches	.....	22	(X)	212.6	(X)	([11])
34231 32	Open-end wrenches	Millions	15	*4.9	20.2	46.9	60.0
34231 38	Combination open-end and box		12	(S)	36.6		
34231 34	Box wrenches		15	(S)	24.2		
34231 37	Adjustable, including pipe wrenches		12	9.8	51.2	9.3	18.9
34231 36	Torque wrenches		10	1.4	18.9	41.5	68.3
34231 39	All other wrenches		16	9.8	29.0		
34231 41	Screwdrivers		28	*168.0	87.3	81.8	45.2
34231 51	Automobile jacks, mechanical, excluding hydraulic and pneumatic	Millions	8	11.0	69.1	12.4	39.1
34231 61	Blow torches	.....	4	(X)	(12)	(X)	[11]278.8
34231 55	Tools for automotive use, excluding jacks, but including wheel and gear pullers, valve tools, body and fender tools, etc	.....	18	(X)	201.2	(X)	
34231 98	Other mechanics' hand service tools	.....	67	(X)	[12]220.5	(X)	
34231 00	Mechanics' hand service tools, n.s.k.	.....	(NA)	(X)	26.3	(X)	33.2
34232 --	Edge tools, hand operated	.....	(NA)	(X)	327.6	(X)	160.1
34232 31	Axes, adzes, and hatchets	.....	9	(X)	19.2	(X)	10.6
34232 51	Cutting dies, for use in cutting cloth, paper, leathers, etc., excluding dies for cutting metal	.....	41	(X)	46.5	(X)	26.8
	Machine knives, except metal cutting:						
34232 56	Veneer knives and chipper knives	.....	6	(X)	15.9	(X)	9.5
34232 58	All other machine knives	.....	15	(X)	28.6	(X)	15.8
34232 61	Can openers, except electric can openers	.....	3	(X)	([13])	(X)	([13])
34232 71	Auger bits	Millions	3	(X)	([13])	(X)	([13])
34232 83	Chisels	Millions	16	(S)	20.9	13.7	10.7
34232 81	Planes	.....	1	(X)	([13])	(X)	[13]75.0
34232 85	Professional and craftsmen's edge hand tools, including knives (palette, mixing, paperhanger, potter, putty, etc.), scrapers, trimmers, and the like	.....	23	(X)	89.5	(X)	
34232 98	Other edge tools, including agricultural and forestry edge hand tools	.....	28	(X)	[13]104.7	(X)	
34232 00	Edge tools, hand operated, n.s.k.	.....	(NA)	(X)	2.3	(X)	11.7

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[10]	Value (million dollars)	Quantity	Value (million dollars)
	HAND AND EDGE TOOLS, N.E.C.--Con.						
34233 --	Files, rasps, and file accessories and other hand tools	.....	(NA)	(X)	524.3	(X)	274.7
34233 11	Shovels, spades, scoops, telegraph spoons, and scrapers	Millions	7	15.0	62.9	14.6	38.3
34233 21	Light forged hammers, under 4 pounds, excluding ball peen hammers		9	*8.4	35.3	7.9	18.1
34233 31	Heavy forged tools, sledges (4 pounds and over), picks, pick mattocks, and mauls		10	2.5	16.6	5.5	16.5
34233 41	Steel goods (forks, hoes, rakes, weeders, etc.)		10	21.1	58.1	17.1	31.4
34233 65	Woodworking and metalworking files and rasps, including precision files		3	(X)	(14)	(X)	(14)
34233 81	Soldering irons (electric)	Millions	12	8.6	47.7	3.2	15.4
34233 98	Other hand tools, except edge tools	.....	73	(X)	14290.7	(X)	14143.8
34233 00	Files, rasps, and file accessories and other hand tools, n.s.k.	.....	(NA)	(X)	13.0	(X)	11.2
34230 00	Hand and edge tools, except machine tools and handsaws, n.e.c., n.s.k., for establishments with 20 employees or more (see note)	.....	(NA)	(X)	55.9	(X)	60.1
34230 02	Hand and edge tools, except machine tools and handsaws, n.e.c., n.s.k., for establishments with less than 20 employees (see note)	.....	(NA)	(X)	88.1	(X)	17.9
	HAND SAWS AND SAW BLADES						
3425- --	Total	.....	(NA)	(X)	369.3	(X)	201.8
34250 --	Hand saws, saw blades, and saw accessories:						
	Power saw blades:						
	Woodworking:						
	Circular:						
34250 11	Solid tooth	.....	24	(X)	48.6	(X)	30.0
34250 13	Inserted tooth	.....	15	(X)	19.7	(X)	10.7
	Band:						
34250 15	Under 2 inches	Million ft.	5	8.9	2.9	11.8	2.5
34250 17	2 inches and over	Million ft.	7	(S)	13.6	.7	4.1
34250 18	Teeth for inserted saws, sold separately	.....	4	(X)	9.9	(X)	4.7
34250 19	All other woodworking power saw blades (scroll, jig, etc.)	Million ft.	8	28.2	48.6	(X)	26.3
	Metalworking:						
34250 31	Circular, including metal teeth and cutting segments sold separately	Millions	13	(S)	14.2	.1	6.5
34250 35	Hack (power only)	Millions	10	(S)	10.1	2.7	6.7
34250 36	Band (flexible back, spring-temper metal cutting and high-speed metal cutting)	Million ft.	15	(S)	92.3	121.9	45.7
34250 39	Other metalworking saw blades (saber, reciprocating, etc.)	.....	7	(X)	9.1	(X)	2.2
	Hand-operated saws:						
34250 43	Hacksaw blades (hand only)	Millions	13	(S)	25.1	58.0	13.1
34250 45	Carpenter crosscuts and ripsaws	Millions	2	(D)	54.9		9.8
34250 49	Other hand saws (heavy hand saws, including crosscut, buck, miter, coping, pruning, compass, etc., including hand saw frames and hand saw blades sold together or hand saw blades sold separately)	.....	17	(X)		(X)	23.7
34250 00	Hand saws, saw blades, and accessories, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	8.7	(X)	14.4
34250 02	Hand saws, saw blades, and accessories, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	11.6	(X)	1.4

See footnotes at end of table.

Table 6a-1. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	HARDWARE, N.E.C.			
3429- --	Total	(NA)	5,082.5	r3,089.5
34292 --	Furniture hardware, excluding cabinet hardware	(NA)	279.9	205.0
34292 13	Rotating and tilting fixtures and bases	10	78.9	34.0
34292 14	Furniture hardware, including drawer pulls and handles, etc., excluding furniture and drawer slides	23	81.5	104.3
34292 16	Furniture and drawer slides	13	28.5	
34292 53	Furniture casters	13	65.6	51.3
34292 55	Other floor protective devices, including slides, glides, furniture rests, and desk leg cups	17	17.7	9.2
34292 00	Furniture hardware, n.s.k.	6	7.7	6.2
34293 --	Vacuum and insulated bottles, jugs, and chests	(NA)	107.0	85.4
34293 15	Vacuum (air-evacuated) bottles, pitchers, servers, etc.	6	107.0	58.1
34293 17	Insulated (portable and other than air-evacuated) picnic jugs, picnic chests, coolers, etc., except those made principally of plastics	5		27.3
34293 00	Vacuum and insulated bottles, jugs, and chests, n.s.k.	-	-	-
34294 --	Builders' hardware	(NA)	1,418.9	934.0
	Padlocks:			
34294 12	Pin tumbler	14	52.4	59.6
34294 13	Non-pin tumbler	7	24.3	
34294 14	Combination	9	22.7	
	Doorlocks, locksets, and lock trim, except architectural trim sold separately:			
34294 16	Cylindrical and tubular, except deadlocks and latches	18	269.1	264.2
34294 17	Mortise, except mortise deadlocks and latches	11	37.1	
34294 18	Tubular and mortise deadlocks and latches	17	42.8	
34294 19	Electronically or electrically operated locks	5	5.2	
34294 22	All other types	18	32.0	
34294 23	Architectural trim (sold separately) including protection plates, push plates, pulls, push pull bars, and lock trim, n.e.c.	18	31.3	(15)
34294 24	Key blanks	14	21.0	(15)
34294 27	Exit devices (antipanic devices)	12	39.4	20.1
34294 33	Screen and storm door hardware, including hydraulic and pneumatic closers	11	49.8	23.1
34294 36	Window hardware, including window locks	21	50.6	76.7
34294 37	Miscellaneous closet hardware, including shelving other than decorative shelving	12	25.2	
	Door controls, closers, and checking devices:			
34294 42	Surface applied	14	52.8	51.6
34294 43	Concealed (overhead, in the door, or on the floor)	9	21.3	
34294 44	Electro-mechanical-pneumatic but with hold-open mechanism released by integral or remote smoke detector	10	11.1	
	Hinges, excluding cabinet hinges, including spring hinges:			
	Butt hinges:			
34294 52	3 1/2 inch x 3 1/2 inch, and under	11	37.8	79.8
34294 53	Over 3 1/2 inch x 3 1/2 inch, either dimension	10	66.2	
34294 54	Other	15	36.5	
	Cabinet hardware:			
34294 61	Cabinet hinges	16	49.9	(16)
34294 62	Cabinet locks	8	19.9	(17)
34294 64	Cabinet knobs, pulls, and catches	14	43.0	(16)
34294 66	Other cabinet hardware, including drawer slides, etc.	10	35.4	16 94.5
34294 71	Hangers, tracks, and related items (except sliding and folding door hardware, residential and commercial)	17	52.3	54.3
34294 73	Sliding and folding door hardware (residential and commercial)	20	42.5	27.2
34294 81	Door holders and stops (overhead, surface, and concealed) floor and wall mounted	9	14.3	8.1
34294 91	Rim locks and other locking devices, n.e.c.	8	16.7	17 29.3
34294 98	Other builders' hardware	59	171.8	15 110.1
34294 00	Builders' hardware, n.s.k.	21	44.5	35.4
34296 --	Motor vehicle hardware	(NA)	2,220.0	r1,200.7
34296 53	Motor vehicle hardware, including lock units, door and window handles, window regulators, hinges, license plate brackets, instrument panel knobs, etc.	69	2,185.6	r1,200.7
34296 00	Motor vehicle hardware, n.s.k.	8	34.4	(NA)
34297 --	Other transportation equipment hardware, except motor vehicle hardware	(NA)	155.4	r133.7
34297 11	Marine hardware, including shackles, rope sockets, tackle blocks, wire rope clips, clamps, and joiners' hardware	46	85.7	60.3
34297 31	Aircraft hardware	23	40.2	r29.7
34297 98	Other transportation equipment hardware, including railroad car hardware	18	22.9	r27.4
34297 00	Other transportation equipment hardware, except motor vehicle hardware, n.s.k.	8	6.6	r16.3
34298 --	Other hardware, n.e.c.	(NA)	648.5	r399.3
34298 12	Casket and casket shell hardware	12	19.5	20.0
34298 22	Casters and wheels, for dollies and industrial handtrucks	27	95.9	r66.4
34298 32	Trunk and luggage hardware, including locks	10	30.1	20.8
34298 52	Fireplace fixtures and equipment, andirons, screens, tongs, and other fire tools	28	172.0	40.2
34298 62	Hose fittings and couplings	31	145.6	121.7
34298 65	Refrigerator and stove hardware	9	14.9	18.3
34298 98	Other hardware, including saddlery and harness hardware, but excluding drapery hardware	87	167.5	97.9
34298 00	Other hardware, n.e.c., n.s.k.	3	3.0	14.0

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments (million dollars)	
	HARDWARE, N.E.C.--Con.			
34290 00	Hardware, n.e.c., n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	104.4	100.0
34290 02	Hardware, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	148.5	31.4

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1] Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2] A base box is an area of 31,360 square inches, equivalent to 112 sheets, 14 inches by 20 inches in size.

[3] Steel shipping packages, kegs, and pails are defined as single-walled shipping containers with a range of capacity from 1 to 12 gallons inclusive, constructed of steel sheet of 29 gage and heavier. This definition does not include tin cans (packers' cans, general line cans, and beer cans), terneplate oil containers, fluid milk shipping containers, ice cream cans, gas cylinders, beer barrels, reconditioned barrels and drums, or containers not commercially usable in transportation of commodities.

[4] Steel shipping barrels are defined as single-walled cylindrical or bilged shipping containers, with a range of capacity from 12 to 132 gallons, constructed of steel. This definition does not include tin cans (packers' cans, general line cans, and beer cans), terneplate oil containers, high and low pressure gas steel cylinders, fluid milk shipping containers, ice cream cans, or containers not commercially usable in transportation of commodities.

[5] 15 to 25 percent of quantity was estimated.

[6] 26 to 50 percent of quantity was estimated.

[7] More than 50 percent of quantity was estimated.

[8] For 1972, product code 34211 23 was included with product code 34211 98.

[9] For 1977, quantities shipped were withheld because estimate did not meet publication standards. For 1972, total quantity shipped was 23,582 thousand units.

[10] For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[11] For 1972, product code 34231 31 was included with product code 34231 98.

[12] For 1977, product code 34231 61 was included with product code 34231 98.

[13] Product codes 34232 61, 34232 71, and 34231 81 were included with product code 34231 98.

[14] Product code 34233 65 was included with product code 34233 98.

[15] For 1972, data for product codes 34294 23 and 34294 24 were included with product code 34294 98.

[16] For 1972, data for product codes 34294 61 and 34294 64 were included with product code 34294 66.

[17] For 1972, data for product code 34294 62 were included with product code 34294 91.

Table 6a-2. **Products Packed — Quantity and Value of Shipments by All Producers: 1977 and 1972**

1977 product code	Type of can	Unit of measure	1977		1972	
			Cans shipped	Base boxes shipped[1] (thousands)	Cans shipped	Base boxes shipped[1] (thousands)
34110 03	METAL CANS					
	Quantity	Million cans...	88,311	190,009	77,844	169,514
	Value	Million dollars	7,167.9	(X)	4,049.4	(X)
34110 07	Shipments for sale:					
	Quantity	Million cans...	61,973	136,764	61,207	137,008
	Value	Million dollars	5,280.3	(X)	3,238.2	(X)
34110 08	Shipments for own use:					
	Quantity	Million cans...	26,338	53,245	16,637	32,506
	Value	Million dollars	1,887.5	(X)	811.2	(X)
	Type of can:					
34110 12	Fruit and fruit juices, including fruit base still drinks sold as soft drinks	Million cans...	5,508	13,863	5,790	13,639
34110 15	Vegetable and vegetable juices		10,922	24,158	9,596	21,822
34110 17	Dairy based products, i.e., liquid, evaporated, condensed milk, puddings, yogurt, etc		1,533	2,526	1,640	2,776
34110 31	Meat, including poultry		1,813	3,513	1,762	3,667
	Steel		1,131	2,633	1,075	2,734
	Aluminum		682	880	687	933
34110 41	Fish and seafoods		1,192	2,145	1,724	3,018
34110 45	Coffee		562	2,334	838	3,595
34110 51	Lard and shortening		387	1,355	342	1,504
34110 63	Soft drinks		23,360	47,421	15,267	[2]31,485
	Steel cans with aluminum ends		}		{ (NA)	(NA)
	All steel cans		16,458	28,143	{ 13,534	[2]24,073
	All aluminum cans		6,902	19,278	1,733	[2]7,412
34110 67	Beer		27,166	55,147	22,129	[2]44,951
	Steel cans with aluminum ends		}		{ (NA)	(NA)
	All steel cans		8,883	15,190	{ 15,425	[2]25,753
	All aluminum cans		18,283	39,957	6,704	[2]19,198
34110 73	Baby foods, including formulas		785	1,663	924	1,549
34110 79	Other foods, except fruit, vegetable, dairy, coffee, meat, fish, lard, soft drinks, juices, beer, baby food, including soups		6,696	13,286	6,986	13,329
	Steel		6,430	12,690	6,557	12,715
	Aluminum		266	596	429	614
34110 71	Pet foods		3,306	5,845	3,568	6,694
34110 81	Motor oil, open top, 1, 4, and 5 quart only		635	2,461	874	3,095
34110 83	Paint and varnish products, including painters' supplies		834	5,746	939	6,086
34110 87	Aerosol cans, all products		2,031	4,543	2,858	5,877
34110 89	All other nonfoods, except pet foods, oil, paint, and pressure packing		1,581	4,003	2,607	6,427
	Kind of metal:					
34111 10	Steel (tinplate)	Million cans...	61,761	128,773	67,672	140,146
	Tonnage equivalent	.....	(X)	[3]5,058.7	(X)	[3]5,539,367
	Value of steel cans shipped	Million dollars	4,962.8	(X)	[4]4,049.4	(X)
34112 00	Aluminum	Million cans...	26,550	61,236	10,172	29,368
	Value of aluminum cans shipped	Million dollars	2,205.0	(X)	([4])	(X)

(NA) Not available. (X) Not applicable.

[1]A base box is an area of 31,060 square inches, equivalent to 112 sheets, 14 inches by 20 inches in size.

[2]For 1977 and 1972, base box data for beverage cans were derived by using a factor of 2.03 base boxes per thousand cans shipped. In prior years, base boxes for beverage cans were reported by each respondent using a range of factors depending on can size and excess lids.

[3]Derived by use of factors 24.8 base boxes per short ton of steel in 1977 and 25.3 in 1972.

[4]For 1972, product code 34112 00 was combined with product code 34111 10.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34113, STEEL CANS, TINPLATE		
United states	4,852.6	(NA)
New England Division:		
Massachusetts	58.6	(NA)
Middle Atlantic Division:		
New York	76.5	(NA)
New Jersey	343.8	(NA)
Pennsylvania	303.4	(NA)
East North Central Division:		
Ohio	396.7	(NA)
Indiana	144.4	(NA)
Illinois	597.9	(NA)
Michigan	55.9	(NA)
Wisconsin	316.3	(NA)
West North Central Division:		
Minnesota	197.7	(NA)
Missouri	230.5	(NA)
South Atlantic Division:		
Maryland	204.4	(NA)
Georgia	89.4	(NA)
Florida	118.9	(NA)
East South Central Division:		
Tennessee	85.5	(NA)
Mississippi	32.6	(NA)
West South Central Division:		
Texas	331.1	(NA)
Mountain Division:		
Idaho	11.8	(NA)
Pacific Division:		
Washington	52.2	(NA)
Oregon	87.2	(NA)
California	793.8	(NA)
Hawaii	47.1	(NA)
34114, ALUMINUM CANS		
United States	1,620.4	(NA)
Middle Atlantic Division:		
New York	65.2	(NA)
New Jersey	127.5	(NA)
East North Central Division:		
Ohio	61.2	(NA)
Illinois	11.5	(NA)
Wisconsin	109.3	(NA)
South Atlantic Division:		
Florida	141.9	(NA)
West South Central Division:		
Texas	164.0	(NA)
Pacific Division:		
California	241.2	(NA)
34115, METAL CAN LIDS, ENDS, PARTS, SHIPPED SEPARATELY		
United States	895.4	(NA)
East North Central Division:		
Ohio	62.6	(NA)
Illinois	35.9	(NA)
West North Central Division:		
Missouri	34.7	(NA)
South Atlantic Division:		
Florida	40.7	(NA)
Pacific Division:		
California	156.0	(NA)
34121, STEEL PAILS (12-GALLON CAPACITY AND UNDER)		
United States	272.9	153.0
Middle Atlantic Division:		
New Jersey	52.0	18.2
Pennsylvania	19.4	13.9
East North Central Division:		
Ohio	19.1	FF
Illinois	72.4	FF
West South Central Division:		
Texas	14.0	CC
Pacific Division:		
California	24.6	EE
34122, STEEL SHIPPING BARRELS AND DRUMS (OVER 12-GALLON CAPACITY)		
United States	548.4	292.1
Middle Atlantic Division:		
New Jersey	75.4	FF
Pennsylvania	33.7	19.5
East North Central Division:		
Ohio	58.7	40.9
Illinois	83.8	45.3
Michigan	11.2	CC
East South Central Division:		
Tennessee	4.3	BB
Alabama	13.5	7.0
West South Central Division:		
Louisiana	48.2	23.2
Texas	62.3	26.5
Pacific Division:		
California	51.3	FF
34123, ALL OTHER METAL BARRELS		
United States	84.0	52.1
East North Central Division:		
Ohio	8.0	5.9
Illinois	13.6	AA
34211, CUTLERY, SCISSORS, SHEARS, TRIMMERS, AND SNIPS		
United States	344.7	183.3
New England Division:		
Massachusetts	21.4	14.0
Connecticut	40.7	28.1
Middle Atlantic Division:		
New York	70.7	FF
New Jersey	47.5	37.9
East North Central Division:		
Ohio	28.2	19.6
West North Central Division:		
Minnesota	2.2	(NA)
34231, MECHANICS' HAND SERVICE TOOLS		
United States	1,070.2	601.2
New England Division:		
Massachusetts	78.5	56.7
Connecticut	49.4	FF
Middle Atlantic Division:		
New York	77.6	60.5
New Jersey	11.5	11.8
Pennsylvania	66.0	38.5

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** – Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34231, MECHANICS' HAND SERVICE TOOLS--Con.		
East North Central Division:		
Ohio	116.5	54.9
Indiana	31.9	EE
Illinois	160.6	94.0
Michigan	48.1	27.9
Wisconsin	86.8	FF
West North Central Division:		
Minnesota	55.5	21.6
Missouri	8.7	CC
South Atlantic Division:		
South Carolina	58.0	EE
Pacific Division:		
California	45.7	GG
34232, EDGE TOOLS, HAND OPERATED		
United States	327.6	160.1
New England Division:		
New Hampshire	2.5	1.5
Massachusetts	52.1	FF
Middle Atlantic Division:		
New York	20.6	7.2
New Jersey	30.8	9.6
Pennsylvania	19.9	8.8
East North Central Division:		
Ohio	51.7	32.9
Illinois	27.4	9.3
Michigan	4.3	(NA)
West North Central Division:		
Missouri	7.5	EE
South Atlantic Division:		
North Carolina	6.4	(NA)
East South Central Division:		
Tennessee	2.4	(NA)
West South Central Division:		
Texas	5.4	(NA)
Pacific Division:		
California	27.1	2.4
34233, OTHER HAND TOOLS, N.E.C.		
United States	524.3	274.7
New England Division:		
Massachusetts	2.8	5.8
Middle Atlantic Division:		
New York	36.2	16.4
New Jersey	50.7	13.0
Pennsylvania	29.2	22.7
East North Central Division:		
Ohio	86.5	46.6
Illinois	35.0	22.9
Michigan	4.7	5.7
Wisconsin	6.0	2.4
West North Central Division:		
Minnesota	3.9	1.3
Pacific Division:		
California	28.4	FF
34292, FURNITURE HARDWARE, EXCLUDING CABINET HARDWARE		
United States	279.9	205.0
New England Division:		
Massachusetts	14.8	EE
Middle Atlantic Division:		
New York	27.3	28.2
Pennsylvania	5.2	3.7
East North Central Division:		
Illinois	38.7	37.9
Michigan	54.0	32.1
Wisconsin	4.4	BB
South Atlantic Division:		
North Carolina	25.7	FF
Pacific Division:		
California	18.4	EE
34294, BUILDERS' HARDWARE		
United States	1,418.9	934.0
New England Division:		
Massachusetts	19.2	EE
Connecticut	176.1	122.5
Middle Atlantic Division:		
New York	44.7	38.9
New Jersey	21.4	5.2
Pennsylvania	57.0	40.1
East North Central Division:		
Ohio	31.4	27.0
Indiana	49.0	22.4
Illinois	256.7	182.1
Michigan	65.4	53.2
Wisconsin	79.4	53.7
West North Central Division:		
Minnesota	42.0	19.1
Iowa	18.6	CC
Missouri	38.0	FF
South Atlantic Division:		
North Carolina	40.8	19.8
West South Central Division:		
Texas	11.6	CC
Pacific Division:		
California	348.7	GG
34296, MOTOR VEHICLE HARDWARE		
United States	2,220.0	1,200.7
Middle Atlantic Division:		
New York	189.5	GG
East North Central Division:		
Indiana	41.7	EE
Michigan	896.9	511.8
Pacific Division:		
California	26.7	2.9
34297, OTHER TRANSPORTATION EQUIPMENT HARDWARE, EXCEPT MOTOR VEHICLE		
United States	155.4	133.7
New England Division:		
Connecticut	15.4	7.4

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** – Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34297, OTHER TRANSPORTATION EQUIPMENT HARDWARE, EXCEPT MOTOR VEHICLE--Con.		
Middle Atlantic Division:		
New York	19.6	5.7
Pennsylvania	13.6	BB
East North Central Division:		
Ohio	10.7	24.5
Michigan	19.5	22.1
South Atlantic Division:		
Florida	12.9	CC
Pacific Division:		
California	29.7	29.5
34298, OTHER HARDWARE, N.E.C.		
United States	648.5	399.3
New England Division:		
Massachusetts	17.0	5.9
Connecticut	49.1	35.0
34298, OTHER HARDWARE, N.E.C.--Con.		
Middle Atlantic Division:		
New York	36.8	44.5
New Jersey	25.3	FF
Pennsylvania	18.0	27.3
East North Central Division:		
Ohio	32.9	39.9
Indiana	85.9	35.8
Illinois	69.8	36.8
Michigan	52.6	FF
West North Central Division:		
Iowa	9.9	7.5
Missouri	10.1	5.5
South Atlantic Division:		
North Carolina	2.3	(NA)
Pacific Division:		
Oregon	40.5	9.8
California	60.2	20.4

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3411-	Metal cans	7,414.7	6,843.0	6,349.2	5,595.8	4,660.8	4,224.4	2,585.7	2,002.2
34113	Steel cans, tinplate	4,852.6							
34114	Aluminum cans	1,620.4	6,781.4	6,333.9	5,578.1	4,629.5	4,202.2	2,585.7	2,002.2
34115	Metal can lids, ends, parts, shipped separately	895.4							
34110	Metal cans, n.s.k	46.2	61.6	15.3	17.7	31.3	22.2		
3412-	Metal barrels, drums, and pails	948.2	783.4	688.6	773.2	593.0	509.4	378.2	317.9
34121	Steel pails (12-gallon capacity and under)	272.9	205.0	184.8	201.6	167.4	153.0	111.6	87.2
34122	Steel shipping barrels and drums (over 12-gallon capacity)	548.4	467.8	412.5	500.4	353.5	292.1	212.6	191.5
34123	All other metal barrels	84.0	113.0	102.3	71.2	62.6	52.1	45.5	35.9
34120	Metal barrels, drums, and pails, n.s.k	43.0	(2)	(2)	-	9.5	12.2	8.5	3.3
3421-	Cutlery	666.9	615.0	541.8	499.4	436.3	403.9	308.9	254.3
34211	Cutlery, scissors, shears, trimmers, and snips	344.7	298.5	263.0	250.6	201.6	183.3	121.0	90.5
34212	Razor blades and razors, except electric	307.4	296.0	258.5	230.4	222.4	207.2	177.1	159.4
34210	Cutlery, n.s.k	14.8	(20.5)	(20.3)	(18.4)	12.3	13.4	10.8	4.4
3423-	Hand and edge tools, n.e.c	2,066.1	1,698.5	1,432.9	1,369.7	1,230.0	1,114.0	775.1	536.1
34231	Mechanics' hand service tools	1,070.2	1,001.1	816.9	752.9	687.1	601.2	319.5	252.4
34232	Edge tools, hand operated	327.6	204.7	201.2	210.9	179.0	160.1	127.8	106.3
34233	Other hand tools, n.e.c	524.3	440.9	377.5	393.8	301.7	274.7	190.5	156.0
34230	Hand and edge tools, n.e.c., n.s.k	144.0	(51.8)	(37.3)	(12.1)	62.2	78.0	65.3	21.4
34250	Hand saws, saw blades, and saw accessories	369.3	328.5	273.3	296.3	245.8	201.8	138.0	85.0
3429-	Hardware, n.e.c	5,082.5	4,578.4	3,669.7	3,398.4	3,423.4	3,089.5	2,188.2	1,663.1
34292	Furniture hardware, excluding cabinet hardware	279.9	307.2	265.1	273.4	235.9	205.0	120.9	95.3
34293	Vacuum and insulated bottles, jugs, and chests	107.0	106.0	109.4	100.1	92.7	85.4	55.9	48.0
34294	Builders' hardware	1,418.9	1,299.7	1,086.0	1,081.8	962.4	934.0	593.4	465.8
34296	Motor vehicle hardware	2,220.0	1,966.4	1,435.1	1,146.2	1,322.3	1,200.7	(NA)	(NA)
34297	Other transportation equipment hardware, except motor vehicle	155.4	311.7	274.3	227.6	207.5	133.7	(NA)	(NA)
34298	Other hardware, n.e.c	648.5	498.7	456.5	486.0	478.1	399.3	335.7	237.4
34290	Hardware, n.e.c., n.s.k	252.9	(88.7)	(43.3)	(83.3)	124.5	131.4	120.9	38.1

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3411, METAL CANS					
	Materials, parts, containers, and supplies	.....	(X)	4,643.4	(X)	2,557.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331018	Tinplate, tin free steel, terneplate, and blackplate	1,000 s. tons..	*4,667.0	2,373.8	5,602.7	1,550.1
331012	Sheet and strip		(S)	84.6	63.4	17.9
331017	Wire and wire products		(S)	1.7	106.4	28.0
331019	All other carbon steel mill shapes and forms					
331020	Alloy steel, except stainless					
	Stainless steel mill shapes and forms:					
331033	Sheet and strip		(S)	1.1	36.0	12.8
331050	All other carbon steel mill shapes and forms	1,000 s. tons..				
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb.....	**1,486.2	924.8	940.8	383.9
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc.)	Million lb.....	411.8	286.8	89.8	42.3
341151	Lids, ends, and parts for metal cans	.....	(X)	331.6	(2)	(2)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	1,000 gallons..	**40,677.0	181.9	35,790.9	98.1
265001	Paperboard boxes and containers	.....	(X)	28.6	(X)	37.0
334130	Lead-base and tin-base solder	1,000 s. tons..	**39.1	30.8	(2)	(2)
346901	Metal stampings, excluding can lids, ends, and parts	.....	(X)	3.2	(2)	(2)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	7.0	(2)	(2)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and other shapes	Million lb.....	(S)	11.1	(2)	(2)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	353.7	(X)	2370.6
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	22.7	(X)	17.2
	INDUSTRY 3412, METAL BARRELS, DRUMS, AND PAILS					
	Materials, parts, containers, and supplies	.....	(X)	528.6	(X)	262.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331018	Tinplate, tin free steel, terneplate, and blackplate	1,000 s. tons..	*92.1	36.2	(4)	(4)
331012	Sheet and strip		*743.9	272.6	847.2	163.4
331017	Wire and wire products		*4.7	1.7		
331019	All other carbon steel mill shapes and forms		(S)	15.0	89.0	18.3
331020	Alloy steel, except stainless		(D)	(D)		
	Stainless steel mill shapes and forms:					
331033	Sheet and strip		(D)	(D)	1.8	1.1
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(D)	(D)		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb.....	1.8	1.5	(D)	(D)
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc.)	Million lb.....	(S)	1.7	-	-
341151	Lids, ends, and parts for metal cans	.....	(X)	15.4	(4)	(4)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	1,000 gallons..	*3,256.3	19.9	3,888.0	13.3
265001	Paperboard boxes and containers	.....	(X)	2.4	(X)	(D)
334130	Lead-base and tin-base solder	1,000 s. tons..	(D)	(D)	(4)	(4)
346901	Metal stampings, excluding can lids, ends, and parts	.....	(X)	2.7	(4)	(4)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	(D)	(4)	(4)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and other shapes	Million lb.....	(D)	(D)	(4)	(4)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	61.1	(X)	450.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	86.5	(X)	13.7

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3421, CUTLERY					
	Materials, parts, containers, and supplies	.....	(X)	172.8	(X)	92.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	5.8	5.1	1.1
331012	Sheet and strip	1,000 s. tons..	**15.4	9.3	12.9	5.3
331013	Plates	1,000 s. tons..	-	-		
331017	Wire and wire products	1,000 s. tons..	2.3	2.2	5.3	1.9
331019	All other carbon steel mill shapes and forms	1,000 s. tons..				
	Alloy steel, except stainless:					
331021	Bars and bar shapes	1,000 s. tons..	2.4	1.1	4.5	1.3
331029	All other alloy steel mill shapes and forms	1,000 s. tons..	.4	.7	.3	.2
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons..	5.4	13.1	3.6	5.9
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	1.1	2.2	2.5	2.9
	Copper and copper-base alloy mill shapes and forms:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	.9	1.0	.9	.5
335143	Plate, sheet, and strip, including military cups and discs	Million lb.....	2.0	3.8	.8	2.5
335152	Pipe and tube	Million lb.....				
	Aluminum and aluminum-base alloy mill shapes and forms:					
335301	Sheet, plate, and foil	Million lb.....	3.7	3.8	3.9	2.2
335008	All other aluminum and aluminum-base alloy mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, and extruded shapes, etc.)	Million lb.....				
	Castings (rough and semifinished):[4]					
332011	Iron (gray and malleable)	1,000 s. tons..			1.4	.7
332045	Steel	1,000 s. tons..	.4	2.4	(Z)	(Z)
336100	Aluminum and aluminum-base alloy	Million lb.....			.1	.1
	Iron and steel forgings:					
346201	Cold	1,000 s. tons..	1.0	2.4	1.0	.9
346209	Other	1,000 s. tons..				
260091	Paper and paperboard containers and other paper packaging supplies	.....	(X)	12.3	(X)	58.1
970099	All other materials and components, parts, containers, and supplies	.....	(X)	88.1		
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	24.6	(X)	8.7
	INDUSTRY 3423, HAND AND EDGE TOOLS, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	642.0	(X)	361.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	**162.7	69.4	117.8	34.2
331012	Sheet and strip	1,000 s. tons..	**128.2	50.3	143.5	31.4
331013	Plates	1,000 s. tons..	1.8	1.7		
331017	Wire and wire products	1,000 s. tons..	(S)	5.9	35.7	10.5
331019	All other carbon steel mill shapes and forms	1,000 s. tons..	**26.6	9.8		
	Alloy steel, except stainless:					
331021	Bars and bar shapes	1,000 s. tons..	(S)	42.1		
331029	All other alloy steel mill shapes and forms	1,000 s. tons..	**10.8	7.5		
	Stainless steel:				71.6	25.5
331033	Sheet and strip	1,000 s. tons..	(S)	3.0		
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	1.8		
	Copper and copper-base alloy mill shapes and forms:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	1.6	2.1	1.3	1.2
335143	Plate, sheet, and strip, including military cups and discs	Million lb.....	.7	.9	.6	.6
335152	Pipe and tube	Million lb.....	(5)	(5)	1.3	.7
	Aluminum and aluminum-base alloy mill shapes and forms:					
335301	Sheet, plate, and foil	Million lb.....	**4.2	3.7		
335008	All other wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc.	Million lb.....	(S)	5 4.7	6.8	3.3
	Castings (rough and semifinished):[6]					
332011	Iron (gray and malleable)	1,000 s. tons..	20.0	21.5	20.6	15.0
332045	Steel	1,000 s. tons..	(S)	6.5	1.6	2.6
336100	Aluminum and aluminum-base alloy	Million lb.....	(S)	10.1	5.7	5.8
	Iron and steel forgings:					
346201	Cold	1,000 s. tons..	**6.8	7.9	31.8	30.7
346209	Other	1,000 s. tons..	10.6	13.0		
260091	Paper and paperboard containers and other paper packaging supplies	.....	(X)	16.8	-	-
970099	All other materials and components, parts, containers, and supplies	.....	(X)	238.7	(X)	149.1
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	124.6	(X)	50.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3425, HAND SAWS AND SAW BLADES					
	Materials, parts, containers, and supplies		(X)	116.1	(X)	59.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	1.8	2.3	.8
331012	Sheet and strip		*17.8	21.5	15.6	7.9
331013	Plates		*.8	.9	.9	.3
331017	Wire and wire products		**1.2	1.3	1.6	.5
331019	All other carbon steel mill shapes and forms		(Z)	8.7	.3	.1
	Alloy steel, except stainless:					
331021	Bars and bar shapes		12.4	18.7	26.6	23.0
331029	All other alloy steel mill shapes and forms					
	Stainless steel:					
331033	Sheet and strip		(D)	(D)	.1	.1
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(D)	(D)		
	Copper and copper-base alloy mill shapes and forms:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	-	-	(Z)	(Z)
335143	Plate, sheet, and strip, including military cups and discs		-	-		
335152	Pipe and tube		-	-		
	Aluminum and aluminum-base alloy mill shapes and forms:					
335301	Sheet, plate, and foil		(D)	(D)	.1	.1
335008	All other wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc	Million lb	(D)	(D)		
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons	(D)		(D)	(D)
332045	Steel	1,000 s. tons	(D)	2.0	-	-
336100	Aluminum and aluminum-base alloy	Million lb	(D)		(D)	(D)
	Iron and steel forgings:					
346201	Cold	1,000 s. tons	(D)	(D)	(D)	(D)
346209	Other	1,000 s. tons	(D)	(D)		
260091	Paper and paperboard containers and other paper packaging supplies		(X)	3.2	(X)	21.3
970099	All other materials and components, parts, containers, and supplies		(X)	31.1		
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	23.7	(X)	5.1
	INDUSTRY 3429, HARDWARE, N.E.C.					
	Materials, parts, containers, and supplies		(X)	2,059.8	(X)	1,140.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	49.8	173.5	37.6
331012	Sheet and strip		*991.2	384.5	1,000.3	210.9
331013	Plates		(S)	3.5	15.9	5.6
331017	Wire and wire products		**79.1	37.2	125.7	33.1
331019	All other carbon steel mill shapes and forms		(S)	23.3	48.1	14.4
331020	Alloy steel, except stainless		(S)	6.8	3.6	1.5
	Stainless steel:					
331033	Sheet and strip		*30.2	56.7	44.7	48.1
331050	All other stainless steel mill shapes and forms	1,000 s. tons	*6.9	18.9	2.9	4.8
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb	.3	.5	.3	.2
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		26.5	26.1	32.3	19.5
335143	Plate, sheet, and strip, including military cups and discs		45.0	42.8	35.5	27.6
335152	Pipe and tube		**4.1	3.7	4.9	1.4
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		59.5	60.4	26.2	17.5
335405	Extruded shapes		**21.8	20.0	22.1	11.7
335008	All other aluminum mill shapes and forms	Million lb	**1.9	2.1	3.0	2.1
	Primary metals:					
333122	Copper and copper-base alloy refinery shapes	1,000 s. tons	(S)	12.4	7.7	6.9
333348	Zinc and zinc-base alloy refinery shapes		*79.1	59.8	105.4	42.9
333401	Aluminum and aluminum-base alloy refinery shapes	1,000 s. tons	(S)	1.9	2.9	1.3
339915	Metal powders	Million lb	(S)	3.7	4.1	1.7
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons	*47.1	40.7	34.8	18.8
332045	Steel	1,000 s. tons	(S)	11.5	5.4	5.8
336100	Aluminum and aluminum-base alloy	Million lb	**6.6	7.1	8.1	6.9
336200	Copper and copper-base alloy	Million lb	(S)	11.6	8.5	9.1
265001	Paperboard boxes and containers		(X)	43.2	(X)	28.3
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	57.6	(X)	(7)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	133.4	72.2	(X)	(7)
345001	Bolts, nuts, screw, rivets, and screw machine products		(X)	76.2	(X)	859.0
362101	Electric motors, generators, and parts		(X)	77.5	(X)	(7)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	10.8	(X)	18.0
349012	Fabricated wire products		(X)	7.6	(X)	(7)
970099	All other materials and components, parts, containers, and supplies		(X)	658.7	(X)	7394.8
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	171.0	(X)	111.3

Footnotes are on next page.

Table 7. **Materials Consumed by Kind: 1972**—Con.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published quantity figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 341151, 334130, 346901, 307903, and 282104 were combined with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1972, material codes 331018, 341151, 334130, 346901, 307903, and 282104 were combined with material code 970099.

[5]For 1977, material code 335152 was included with material code 335008.

[6]Excludes quantities produced and consumed in same establishment.

[7]For 1972, material codes 307903, 282104, 362101, 349012 were included with material code 970099.

[8]Form 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (form MA-131).

Heating Apparatus (Except Electric and Warm Air Furnaces) and Plumbing Fixtures

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DESCRIPTION OF INDUSTRIES

HEATING APPARATUS (EXCEPT ELECTRIC AND WARM AIR FURNACES) AND PLUMBING FIXTURES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3431	Metal Sanitary Ware
3432	Plumbing Fittings and Brass Goods
3433	Heating Equipment, Except Electric

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments in the industry, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a–5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 Supplement.

INDUSTRY 3431, METAL SANITARY WARE

This industry comprises establishments primarily engaged in the manufacture of enameled iron, cast iron, or pressed metal sanitary ware. Establishments primarily engaged in the manufacture of vitreous and semivitreous pottery sanitary ware are classified in Industry 3261, Vitreous Plumbing Fixtures; and those manufacturing procelain enameled kitchen, household, and hospital ware in Industry 3469, Metal Stampings, N.E.C.

The total value of shipments for establishments classified in the Metal Sanitary Ware industry amounted to $478 million in 1977, an increase of 29 percent from 1972. The value of shipments of products classified as primary to the industry was $392 million, an increase of 24 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments). The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $249 million in 1977, was 19 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.1 thousand employees, a decrease of 28 percent from 1972. The leading States in employment were Wisconsin, Kentucky, Illinois, and California, accounting for approximately 65 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of plumbing fixtures only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of plumbing fixtures are reported quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-34E, Plumbing Fixtures. These data are also shown in table 6a.

Industry 3431 includes establishments which fall into two significantly different categories: Those producing cast iron plumbing fixtures and those producing metal fixtures of pressed metal. Accordingly, the manufacturing plants included in this industry involve different manufacturing processes depending upon the line of products produced. Those fixture plants producing cast iron fixtures include significant foundry operations, while the pressed metal fixture plants are more closely allied to metal fabricating plants producing their product by forming processes (stamping, drawing, etc.).

The operations of the largest establishments in this industry cover the entire production process including the casting of the fixture through the machining, finishing, and assembly operations. In general, these processes are carried on at a single manufacturing plant. However, in a few instances the foundry operations were performed at separate locations and, accordingly, those separate foundries were classified in the foundry industries (industries 3321, 3322, 3324, 3325, 3361, 3362, and 3369). In the latter case, the plants classified in this industry would be limited to machining and finishing operations on castings received from their associated plants.

Certain of the companies' operating plants classified in this industry also have establishments producing allied products classified in other industries. For example, the larger fixture manufacturers also have plants engaged in manufacturing fixture fittings and such allied products as vitreous china fixtures, kitchen cabinets, warm air furnaces, boilers, and other consumer durable items in the plumbing and heating line.

Single-unit establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger

establishments whose reports were not received at the time the data were tabulated), were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3432, PLUMBING FITTINGS AND BRASS GOODS

This industry comprises establishments primarily engaged in the manufacture of plumbing fixtures fittings and trim (brass goods). Establishments primarily engaged in the manufacture of steam or water line valves are classified in Industry 3494, Valves and Pipe Fittings.

The total value of shipments for establishments classified in the Plumbing Fittings and Brass Goods industry amounted to $1,166 million in 1977, an increase of 65 percent from 1972. The value of shipments of products classified as primary to the industry was $1,109 million, an increase of 65 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments). The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $579 million in 1977, was 60 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 19.3 thousand employees, an increase of 4 percent from 1972. The leading States in employment were California, Ohio, Illinois, and Indiana, accounting for approximately 45 percent of the industry's 1977 employment.

Single-unit establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3433, HEATING EQUIPMENT, EXCEPT ELECTRIC

This industry comprises establishments primarily engaged in the manufacture of heating equipment, except electric and warm air furnaces, including gas, oil, and stoker coal fired equipment, for the automatic utilization of gaseous, liquid, and solid fuels. Establishments primarily engaged in the manufacture of warm air furnaces are classified in Industry 3585, Refrigeration and Heating Equipment; cooking stoves and ranges in Industry 3631, Household Cooking Equipment; boiler shops primarily engaged in the production of industrial, power, and marine boilers in Industry 3443, Fabricated Platework, Boiler Shops; and industrial process furnaces and ovens in Industry 3567, Industrial Furnaces and Ovens.

The total value of shipments for establishments classified in the Heating Equipment, Except Electric industry amounted to $1,446 million in 1977, an increase of 37 percent from 1972. The value of shipments of products classified as primary to the industry was $1,397 million, an increase of 51 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments). The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $747 million in 1977, was 33 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 25.8 thousand employees, a decrease of 16 percent from 1972. The leading States in employment were Pennsylvania, California, Illinois, and Indiana, accounting for approximately 35 percent of the industry's 1977 employment.

Inasmuch as the primary products of industry 3433 represent a wide and heterogenous group of heating equipment products, the establishments in this industry are involved in a variety of manufacturing processes. Many heating equipment plants are engaged in metal fabricating activities: Namely, stamping and forming. In addition, a significant number of the establishments in the industry are engaged in foundry and plate fabricating activities.

Some of the companies' operating plants classified in industry 3433 have establishments engaged in the production of allied products such as metal tanks, electric and nonelectric ranges, electric and nonelectric water heaters, and other consumer durable items principally in the heating and cooking line.

The establishments of this industry vary greatly in the degree to which they manufacture the components used in the production of heating and cooking equipment. Some manufacturers produce practically all of the component parts and incorporate only such purchased parts as the motor, electrical controls, and blowers. Other manufacturers produce only a small part of the complete unit, purchasing most of the components from other manufacturers and limiting their manufacturing activities to assembly operations.

Data are shown in table 6a for "oil burners sold separately." These statistics exclude the quantity and value of oil burners which were both produced and incorporated into other types of heating equipment in the same plant. In these instances, the value of the boiler or furnace burner unit includes the value of the oil burner.

Data on shipments of domestic heating stoves, mechanical stokers, oil burners, and furnaces are reported annually by the Census Bureau's Current Industrial Reports (CIR) MA-34N, Heating and Cooking Equipment (Except Electric).

Single-unit establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
	Companies[2] (no.)	Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
INDUSTRY 3431, METAL SANITARY WARE																
1977 Census	96	101	37	8.1	109.7	6.7	14.4	87.5	248.7	223.6	477.6	11.3	(NA)	65.5	82	92
1976 ASM	(NA)	(NA)	(NA)	7.8	106.2	6.2	13.5	79.5	225.9	212.3	436.4	14.3	137.2	75.2	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	8.8	95.3	7.0	13.4	71.7	196.5	203.4	398.4	16.4	169.7	81.5	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	10.3	104.8	8.1	15.8	78.3	199.8	207.4	405.2	11.7	159.0	85.4	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	10.5	106.0	8.8	17.4	84.4	200.8	170.4	361.9	6.8	145.2	69.1	(NA)	(NA)
1972 Census	91	95	50	11.2	104.4	9.2	18.5	81.4	208.2	163.0	370.2	8.2	155.2	50.7	84	91
1971 ASM	(NA)	(NA)	(NA)	11.5	101.6	9.2	18.7	76.4	193.2	149.3	345.4	6.2	155.3	80.8	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	11.5	94.1	9.0	17.6	70.2	163.3	135.5	295.6	8.4	130.1	54.4	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	12.8	101.5	10.5	21.6	79.2	189.6	168.5	358.7	7.4	165.2	55.4	(NA)	(NA)
1968 ASM[5]	(NA)	(NA)	(NA)	10.9	79.5	9.0	18.5	62.1	160.1	132.6	292.2	8.2	146.5	41.6	(NA)	(NA)
1967 Census	83	91	51	10.1	71.3	8.1	16.4	53.5	140.6	109.3	251.2	7.6	145.1	43.0	83	89
1966 ASM	(NA)	(NA)	(NA)	12.0	78.7	9.6	18.8	57.6	146.4	119.5	262.3	6.5	(NA)	50.5	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	11.4	72.7	9.1	17.9	52.8	142.6	111.5	253.8	5.6	(NA)	43.3	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	11.6	74.6	9.1	18.4	55.0	142.4	111.2	251.9	5.3	127.2	40.6	(NA)	(NA)
1963 Census	75	81	45	11.0	68.2	8.8	17.5	50.4	139.9	96.2	234.9	5.9	123.5	37.4	84	91
INDUSTRY 3432, PLUMBING FITTINGS AND BRASS GOODS																
1977 Census	191	213	110	19.3	215.0	15.3	30.0	145.0	578.5	602.4	1 166.4	30.3	(NA)	239.8	96	92
1976 ASM	(NA)	(NA)	(NA)	18.8	197.1	14.4	27.9	128.0	526.9	510.5	1 023.0	29.3	260.5	221.3	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	16.4	161.1	12.4	24.4	103.0	394.2	396.3	803.8	39.2	247.4	194.8	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	17.6	152.7	13.5	27.0	98.7	380.5	410.9	778.5	18.3	180.7	185.4	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	18.5	160.5	14.2	29.5	106.6	392.4	423.6	787.9	12.3	180.3	182.8	(NA)	(NA)
1972 Census	208	231	112	18.6	151.5	14.3	29.2	99.1	361.8	358.7	708.2	19.0	177.5	139.5	90	90
1971 ASM	(NA)	(NA)	(NA)	16.6	124.7	12.3	25.3	80.5	274.6	275.2	548.0	14.7	155.3	110.4	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	16.0	113.4	12.0	23.9	74.2	238.4	250.4	472.7	11.5	130.1	102.0	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	16.7	118.8	12.9	25.3	77.7	257.7	253.8	504.5	10.7	135.8	104.3	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	14.2	93.0	11.3	22.5	63.9	190.4	219.5	413.1	7.7	107.0	85.8	(NA)	(NA)
1967 Census	210	214	90	14.5	92.6	11.4	22.8	64.2	183.3	217.9	404.7	8.2	109.0	90.6	93	86
1966 ASM	(NA)	(NA)	(NA)	15.0	84.8	11.9	22.4	60.0	183.0	223.8	396.3	7.0	(NA)	92.1	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	15.7	87.7	12.5	24.6	61.8	166.0	220.4	383.0	9.1	(NA)	78.8	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	15.3	84.6	12.5	24.6	61.7	189.3	197.1	377.9	7.2	103.5	75.9	(NA)	(NA)
1963 Census	247	250	102	15.1	79.3	12.3	24.0	58.3	154.8	181.3	333.8	6.5	97.6	64.7	90	83
INDUSTRY 3433, HEATING EQUIPMENT, EXCEPT ELECTRIC[3]																
1977 Census	581	702	195	25.8	312.5	18.7	36.1	190.5	746.5	717.7	1 445.6	32.4	(NA)	263.1	87	84
1976 ASM	(NA)	(NA)	(NA)	24.0	275.7	16.6	32.6	164.3	583.0	571.1	1 148.6	16.7	260.6	227.1	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	28.2	294.7	19.5	36.5	174.7	571.3	573.5	1 168.5	19.1	326.7	238.7	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	30.4	302.6	21.5	41.9	186.4	594.8	586.0	1 167.0	30.1	323.0	276.2	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	32.0	296.2	23.0	46.2	186.3	616.0	571.6	1 165.3	25.9	313.2	249.2	(NA)	(NA)
1972 Census	411	432	191	30.9	268.0	22.0	43.2	164.5	561.6	518.7	1 058.4	24.5	312.7	209.6	82	88

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3431, METAL SANITARY WARE										
1977 Census--	13 463	(NA)	82	2 157	6.07	46	69	(NA)	30 531	44	17.25
1976 ASM----	13 615	17 589	79	2 177	5.88	48	72	31	28 961	47	16.73
1975 ASM----	10 829	19 284	79	1 914	5.35	51	74	42	22 329	48	14.66
1974 ASM----	10 174	15 436	78	1 950	4.95	51	77	39	19 398	52	12.64
1973 ASM----	10 095	13 828	83	1 977	4.85	47	76	40	19 123	52	11.54
1972 Census--	9 321	13 857	82	2 010	4.40	44	72	41	18 589	50	11.25
1971 ASM----	8 834	13 504	80	2 032	4.08	43	72	44	16 800	52	10.33
1970 ASM----	8 182	11 313	78	1 955	3.98	45	77	44	14 200	57	9.27
1969 ASM----	7 929	12 906	82	2 057	3.66	46	75	46	14 812	53	8.77
1968 ASM----	7 293	13 440	82	2 055	3.35	45	72	50	14 688	49	8.65
1967 Census--	7 059	14 366	80	2 024	3.26	43	71	57	13 920	50	8.57
1966 ASM----	6 558	(NA)	80	1 958	3.06	45	75	(NA)	12 200	53	7.78
1965 ASM----	6 377	(NA)	79	1 967	2.94	43	72	(NA)	12 508	50	7.96
1964 ASM----	6 431	10 965	78	2 021	2.98	44	73	50	12 275	52	7.73
1963 Census--	6 200	11 227	80	1 988	2.88	40	69	52	12 718	48	7.99
	INDUSTRY 3432, PLUMBING FITTINGS AND BRASS GOODS										
1977 Census--	11 129	(NA)	79	1 961	4.83	51	70	(NA)	29 945	37	19.30
1976 ASM----	10 484	13 856	76	1 937	4.58	49	69	25	28 026	37	18.88
1975 ASM----	9 823	15 085	75	1 967	4.22	49	69	30	24 036	40	16.15
1974 ASM----	8 676	10 267	76	2 000	3.65	52	72	23	21 619	40	14.09
1973 ASM----	8 675	9 745	76	2 077	3.61	53	74	22	21 210	40	13.30
1972 Census--	8 145	9 543	76	2 041	3.39	50	72	25	19 451	41	12.39
1971 ASM----	7 512	9 355	74	2 056	3.18	50	72	28	16 542	45	10.85
1970 ASM----	7 087	8 131	75	1 991	3.10	52	76	27	14 900	47	9.97
1969 ASM----	7 113	8 131	77	1 961	3.07	50	73	26	15 431	46	10.18
1968 ASM----	6 549	7 535	79	1 991	2.84	53	75	25	13 408	48	8.46
1967 Census--	6 386	7 517	78	2 000	2.81	53	76	26	12 641	50	8.03
1966 ASM----	5 653	(NA)	79	1 882	2.67	56	77	(NA)	12 200	46	8.16
1965 ASM----	5 585	(NA)	79	1 968	2.51	57	80	(NA)	10 573	52	6.74
1964 ASM----	5 529	6 764	81	1 968	2.50	52	74	27	12 372	44	7.69
1963 Census--	5 251	6 463	81	1 951	2.42	54	78	29	10 251	51	6.45
	INDUSTRY 3433, HEATING EQUIPMENT, EXCEPT ELECTRIC										
1977 Census--	12 116	(NA)	72	1 929	5.28	49	71	(NA)	28 945	41	20.70
1976 ASM----	11 487	10 858	69	1 963	5.03	49	73	22	24 291	47	17.88
1975 ASM----	10 450	11 585	69	1 871	4.78	49	74	27	20 258	51	15.65
1974 ASM----	9 953	10 625	70	1 948	4.44	50	76	27	19 565	50	14.19
1973 ASM----	9 256	9 787	71	2 008	4.03	49	74	26	19 250	48	13.33
1972 Census--	8 673	10 119	71	1 963	3.80	49	74	29	18 174	47	13.00

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3431, METAL SANITARY WARE													
United States	-	**101**	**37**	**8.1**	**109.7**	**6.7**	**14.4**	**87.5**	**248.7**	**223.6**	**477.6**	**11.3**	**11.2**	**208.2**
East North Central Division:													
Ohio	-	8	3	1.0	11.8	0.8	1.5	9.9	30.2	26.2	56.4	0.6	1.5	25.6
Indiana	-	5	3	0.6	6.4	0.5	1.0	5.0	10.9	14.7	25.8	(D)	(NA)	(D)
Illinois	-	12	7	1.1	15.5	0.8	1.7	9.5	35.8	41.0	75.9	1.6	1.3	35.4
Wisconsin	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	10	2	0.4	4.9	0.3	0.6	3.2	9.5	11.5	20.6	(D)	(NA)	(D)
Pacific Division:														
California	E1	25	8	1.0	12.7	0.8	1.5	8.9	28.4	24.3	53.7	1.8	(NA)	(D)
INDUSTRY 3432, PLUMBING FITTINGS AND BRASS GOODS														
United States	-	**213**	**110**	**19.3**	**215.0**	**15.3**	**30.0**	**145.0**	**578.5**	**602.4**	**1 166.4**	**30.3**	**18.6**	**361.8**
New England Division:														
Massachusetts	-	6	3	0.2	2.5	0.2	0.3	1.6	5.4	4.2	9.5	0.2	(NA)	(D)
Connecticut	E3	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	19	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	13.9
New Jersey	-	8	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	12	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	20	11	1.8	27.5	1.1	2.3	12.2	50.8	70.6	116.1	0.7	2.5	44.6
Indiana	-	5	5	1.5	16.5	1.3	2.5	13.0	75.1	67.8	141.6	(D)	(NA)	(D)
Illinois	-	19	9	1.7	22.8	1.4	2.8	17.1	52.6	44.5	94.7	3.8	1.6	27.7
Michigan	-	10	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	E1	6	1	0.3	2.9	0.3	0.4	2.0	5.7	4.9	10.5	0.4	(NA)	(D)
South Atlantic Division:														
Delaware	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	9	4	0.9	7.6	0.8	1.6	6.2	23.7	39.0	60.2	1.7	(NA)	(D)
Pacific Division:														
California	-	46	28	3.9	39.4	3.3	6.4	28.6	107.7	99.5	209.6	7.1	(NA)	(D)
INDUSTRY 3433, HEATING EQUIPMENT, EXCEPT ELECTRIC														
United States	-	**702**	**195**	**25.8**	**312.5**	**18.7**	**36.1**	**190.5**	**746.5**	**717.7**	**1 445.6**	**32.4**	**30.9**	**561.6**
New England Division:														
Massachusetts	E1	24	5	0.5	6.7	0.4	0.9	4.3	15.2	13.3	27.4	1.0	0.6	10.8
Connecticut	-	21	7	0.5	7.4	0.3	0.7	3.1	14.1	17.3	31.2	0.6	0.6	11.8
Middle Atlantic Division:														
New York	-	47	17	1.7	21.7	1.3	2.4	13.7	50.8	44.9	93.1	(D)	2.6	50.6
New Jersey	E1	24	8	0.9	10.2	0.6	1.2	6.0	21.8	20.7	42.5	(D)	1.0	20.1
Pennsylvania	-	48	23	3.5	47.6	2.5	4.8	29.5	111.9	97.2	205.5	6.0	4.1	75.1
East North Central Division:														
Ohio	-	27	11	1.0	15.4	0.6	1.3	7.6	33.6	34.4	68.5	1.8	1.4	34.6
Indiana	-	12	6	1.7	24.3	1.2	2.4	14.1	59.3	68.7	127.6	2.4	5.3	91.2
Illinois	-	33	14	1.9	22.8	1.3	2.3	13.9	54.2	36.3	90.7	2.1	3.1	49.5
Michigan	-	26	9	0.9	12.2	0.6	1.0	6.2	31.9	26.7	56.9	3.3	1.1	24.7
Wisconsin	-	24	7	1.2	13.9	1.0	1.9	10.0	30.2	45.2	73.4	(D)	1.1	21.9
West North Central Division:														
Minnesota	E3	20	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	9	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	E2	15	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	E1	9	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3433, HEATING EQUIPMENT, EXCEPT ELECTRIC—Con.														
South Atlantic Division:														
Virginia	-	14	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	21	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	11	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	E1	8	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.1	14.0
Alabama	-	10	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	E1	29	11	1.1	14.1	0.7	1.4	6.7	28.1	25.5	54.7	0.7	(NA)	(D)
Mountain Division:														
Utah	E3	10	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	E1	16	3	0.4	5.5	0.3	0.7	3.9	10.3	10.1	18.7	0.2	(NA)	(D)
Oregon	E4	25	3	0.2	2.4	0.2	0.3	1.4	5.3	5.2	10.5	0.2	(NA)	(NA)
California	-	72	17	2.0	23.8	1.4	2.8	14.4	57.5	50.9	107.4	1.6	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Metal sanitary ware (SIC 3431)	Plumbing fittings and brass goods (SIC 3432)	Heating equipment, except electric (SIC 3433)
Primary product specialization ratio[1]	percent	82	96	87
Coverage ratio[2]	do	92	92	84
All establishments	number	101	213	702
With 1 to 19 employees	do	64	103	507
With 20 to 99 employees	do	18	48	122
With 100 employees or more	do	19	62	73
All employees, average for year	1,000	8.1	19.3	25.8
Payroll for year, all employees	mil. dol.	109.7	215.0	312.5
Production workers:				
Average for year	1,000	6.7	15.3	18.7
March	do	6.6	15.3	17.3
May	do	6.9	15.9	17.7
August	do	6.3	14.8	19.1
November	do	6.8	15.1	20.4
Hours	millions	14.4	30.0	36.1
January to March	do	3.5	7.4	8.4
April to June	do	3.7	7.9	8.8
July to September	do	3.6	7.4	9.0
October to December	do	3.6	7.4	9.9
Wages	mil. dol.	87.5	145.0	190.5
Cost of materials, etc.	do	223.6	602.4	717.7
Materials, parts, containers, etc., consumed	do	185.4	539.9	626.7
Resales	do	21.7	40.8	59.3
Fuels consumed	do	10.0	4.0	9.6
Purchased electric energy	do	5.7	8.8	8.0
Contract work	do	0.8	8.9	14.1
Value of shipments, including resales	do	477.6	1 166.4	1 445.6
Value of resales	do	28.1	49.4	77.7
Value added by manufacture	do	248.7	578.5	746.5
Manufacturers' inventories:				
Beginning of year	do	72.1	219.6	234.4
Finished products	do	24.6	84.7	58.4
Work in process	do	18.1	71.1	60.6
Materials, supplies, fuel, etc.	do	29.4	63.8	115.4
End of year	do	65.5	239.8	263.1
Finished products	do	20.9	85.9	66.8
Work in process	do	16.5	84.4	70.8
Materials, supplies, fuel, etc.	do	28.0	69.5	125.5
Capital expenditures for plant and equipment	do	12.0	32.1	33.7
New capital expenditures	do	11.3	30.3	32.4
New buildings and other structures	do	2.0	3.8	9.0
New machinery and equipment	do	9.3	26.5	23.5
Used capital expenditures	do	0.7	1.7	1.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Metal sanitary ware SIC 3431)		Plumbing fittings and brass goods (SIC 3432)		Heating equipment, except electric (SIC 3433)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	0.8	14	1.5	9	(1.9)	29
Response coverage ratio[2] (percent)	79	(X)	60	(X)	59	(X)
Machinery	12.0	4	6.9	13	(4.0)	16
Response coverage ratio[2] (percent)	78	(X)	66	(X)	63	(X)
Cost of purchased communication services	(0.9)	18	2.6	10	(4.0)	20
Response coverage ratio[2] (percent)	81	(X)	59	(X)	65	(X)
Rental payments	(2.7)	17	6.2	5	8.9	12
Buildings and other structures	(0.8)	38	3.2	8	4.6	11
Machinery and equipment	1.8	10	2.9	7	(4.3)	25
Supplemental labor costs	22.9	2	43.9	2	57.6	3
Legal costs	10.2	2	19.7	2	27.4	5
Voluntary costs	(12.8)	4	24.2	2	30.0	4
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	42.5	4	71.4	3	94.2	11
New capital expenditures	(1.8)	25	4.8	13	8.8	10
Used capital expenditures	-	(X)	0.5	4	-	(X)
Retirements	0.5	12	0.7	14	(3.2)	16
End of year	43.8	3	75.9	2	99.9	10
Machinery and equipment:						
Beginning of year	103.6	3	182.3	4	186.9	4
New capital expenditures	9.5	6	28.6	8	25.3	8
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(1.5)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(0.5)	(A)
All other[3]	(7.7)	(A)	(20.1)	(A)	(19.7)	(A)
New machinery and equipment, n.s.k.[4]	(1.5)	(A)	(8.1)	(A)	(3.6)	(A)
Used capital expenditures	(1.1)	32	(1.5)	23	(1.1)	21
Retirements	(2.4)	27	5.2	5	(8.5)	20
End of year	111.7	3	207.1	3	204.8	4
Total gross value of depreciable assets:						
Beginning of year	146.0	2	253.6	3	281.2	5
New capital expenditures	11.3	6	33.4	8	34.0	8
Used capital expenditures	(1.1)	32	(2.0)	18	(1.2)	20
Retirements	(3.0)	23	6.0	6	(11.6)	19
End of year	155.5	2	283.1	2	304.8	4
Depreciation charges during 1977	8.3	2	21.2	3	20.3	12
Buildings and other structures	1.5	4	3.5	4	(4.9)	17
Machinery and equipment	6.8	3	17.7	3	15.4	11

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3431, METAL SANITARY WARE												
Total	-	**101**	**8.1**	**109.7**	**6.7**	**14.4**	**87.5**	**248.7**	**223.6**	**477.6**	**11.3**	**65.5**
Establishments with an average of—												
1 to 4 employees	E9	36	(Z)	0.6	(Z)	0.1	0.4	1.2	1.2	2.3	0.1	0.4
5 to 9 employees	E8	13	0.1	1.1	0.1	0.2	0.8	2.6	2.7	5.3	0.2	1.0
10 to 19 employees	E4	15	0.2	2.5	0.2	0.3	1.8	5.2	5.6	10.7	0.3	2.1
20 to 49 employees	-	5	0.2	2.2	0.1	0.3	1.3	4.0	5.6	9.4	0.2	2.1
50 to 99 employees	E1	13	0.9	10.4	0.7	1.4	7.0	21.7	28.2	49.8	1.7	10.7
100 to 249 employees	-	9	1.3	12.9	1.0	2.0	9.6	33.5	42.2	75.9	2.3	13.3
250 to 499 employees	-	7	2.3	26.6	1.9	3.6	20.9	60.2	58.1	118.2	1.9	16.9
500 to 999 employees	-	2	(3.1)	(53.4)	(2.6)	(6.7)	(45.7)	(120.2)	(80.1)	(205.9)	(4.7)	(19.0)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	49	0.2	2.9	0.2	0.4	2.1	5.7	5.7	11.4	0.4	2.0
INDUSTRY 3432, PLUMBING FITTINGS AND BRASS GOODS												
Total	-	**213**	**19.3**	**215.0**	**15.3**	**30.0**	**145.0**	**578.5**	**602.4**	**1 166.4**	**30.3**	**239.8**
Establishments with an average of—												
1 to 4 employees	E8	41	0.1	0.7	0.1	0.1	0.5	2.1	2.1	4.3	0.1	0.7
5 to 9 employees	E6	25	0.2	2.1	0.1	0.3	1.4	4.9	4.7	10.0	0.2	2.1
10 to 19 employees	E5	37	0.5	5.9	0.4	0.7	3.3	15.9	16.0	32.0	1.2	6.6
20 to 49 employees	E2	30	0.9	9.0	0.8	1.4	6.2	26.1	28.9	54.1	1.0	11.0
50 to 99 employees	E1	18	1.3	13.7	1.0	2.1	10.1	33.2	36.4	70.5	2.5	12.0
100 to 249 employees	-	41	6.5	68.1	5.2	9.9	47.2	188.6	190.1	376.6	11.9	76.5
250 to 499 employees	-	15	4.8	51.2	4.0	8.1	39.0	142.2	174.4	311.8	6.2	66.7
500 to 999 employees	-	5	(5.0)	(64.4)	(3.6)	(7.4)	(37.3)	(165.3)	(149.8)	(307.2)	(7.1)	(64.2)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	79	0.5	5.7	0.4	0.8	3.8	13.3	13.1	26.4	0.7	5.3
INDUSTRY 3433, HEATING EQUIPMENT, EXCEPT ELECTRIC												
Total	-	**702**	**25.6**	**312.5**	**18.7**	**36.1**	**190.5**	**746.5**	**717.7**	**1 445.6**	**32.4**	**263.1**
Establishments with an average of—												
1 to 4 employees	E6	348	0.5	6.1	0.4	0.7	3.6	15.3	13.4	28.5	0.6	5.5
5 to 9 employees	E7	86	0.6	6.6	0.4	0.8	4.1	14.1	13.7	27.8	2.8	5.5
10 to 19 employees	E6	73	1.0	12.3	0.7	1.5	7.2	28.8	27.5	55.9	1.1	10.5
20 to 49 employees	E2	77	2.4	27.9	1.7	3.4	15.7	59.6	62.4	120.1	3.0	22.7
50 to 99 employees	-	45	3.2	38.3	2.3	4.4	21.3	98.9	97.7	194.8	3.3	32.4
100 to 249 employees	-	45	7.0	84.3	5.1	9.5	49.2	204.8	186.1	384.2	6.9	75.3
250 to 499 employees	-	22	7.3	86.0	5.4	10.5	57.6	205.5	207.3	407.0	8.5	74.3
500 to 999 employees	-	6	3.7	51.1	2.6	5.3	31.8	119.5	109.6	227.3	6.3	36.9
Covered by administrative records[2]	E0	389	1.7	20.8	1.3	2.5	12.6	44.2	43.9	88.1	1.5	17.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3431	**Metal sanitary ware:**										
	Entire industry	101	8.1	109.7	6.7	14.4	87.5	248.7	223.6	477.6	11.3
	Establishments with 75 percent specialization or more	90	4.7	60.8	3.7	7.4	44.7	138.3	139.2	276.0	8.4
3432	**Plumbing fittings and brass goods:**										
	Entire industry	213	19.3	215.0	15.3	30.0	145.0	578.5	602.4	1 166.4	30.3
	Establishments with 75 percent specialization or more	202	18.2	201.1	14.4	28.4	136.3	542.4	569.7	1 096.9	29.0
3433	**Heating equipment, except electric:**										
	Entire industry	702	25.8	312.5	18.7	36.1	190.5	746.5	717.7	1 445.6	32.4
	Establishments with 75 percent specialization or more	562	18.6	219.9	13.4	25.5	132.6	527.7	503.6	1 021.3	23.7
34333	Cast iron heating boilers, radiators, convectors:										
	Establishments with this product class primary	21	3.4	46.6	2.6	5.1	32.0	108.6	109.2	211.4	5.3
	Establishments with 75 percent specialization or more in class	17	2.7	38.3	2.1	4.1	25.7	89.5	90.6	175.7	4.9
34334	Domestic heating stoves, excl. electric & parts:										
	Establishments with this product class primary	24	3.0	30.3	2.5	4.8	22.1	87.4	80.5	166.8	2.5
	Establishments with 75 percent specialization or more in class	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34335	Steel heating boilers, except electric & parts:										
	Establishments with this product class primary	17	1.4	17.2	1.0	1.8	11.1	36.2	36.6	73.3	1.9
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34337	Other heating equipment and parts:										
	Establishments with this product class primary	127	14.9	182.1	10.4	20.0	103.2	434.5	416.3	839.7	19.3
	Establishments with 75 percent specialization or more in class	91	7.2	83.4	4.8	9.2	44.4	211.0	198.5	404.6	9.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. **Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967**

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3431	Metal sanitary ware.....1977..	477.6	361.2	80.8	35.5	82	392.3	361.2	31.1	92
	1972..	370.2	287.5	52.9	29.8	84	315.6	287.5	28.1	91
	1967..	251.2	189.2	36.8	25.2	84	213.1	189.2	23.9	89
3432	Plumbing fittings and brass goods.....1977..	1,166.4	1,023.3	46.5	96.6	96	1,109.1	1,023.3	85.8	92
	1972..	708.2	604.7	66.3	37.2	90	673.2	604.7	68.5	90
	1967..	404.7	346.7	27.9	30.1	93	404.6	346.7	57.9	86
3433	Heating equipment, except electric.....1977..	1,445.6	1,175.4	174.0	96.2	87	1,396.7	1,175.4	221.3	84
	1972..	1,058.4	813.6	181.3	63.5	82	924.0	813.6	110.4	88
	1967..	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

(NA) Not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Metal sanitary ware (SIC 3431)	Plumbing fittings and brass goods (SIC 3432)	Heating equipment, except electric (SIC 3433)	Other industries
	Total	(X)	477.6	1,166.4	1,445.6	(X)
	Primary products	(X)	361.2	1,023.3	1,175.4	(X)
	Secondary products	(X)	80.8	46.5	174.0	(X)
	Miscellaneous receipts	(X)	35.6	96.6	96.2	(X)
34310	Metal plumbing fixtures	392.3	361.2	(D)	(D)	(D)
34320	Plumbing fittings and brass goods	1,109.1	(D)	1,023.3	(D)	(D)
3433-	Heating equipment, except electric	1,396.7	-	(D)	1,175.4	(D)
34333	Cast iron heating boilers, radiators, convectors	187.8	-	-	184.3	3.5
34334	Domestic heating stoves, excluding electric and parts	174.7	-	-	137.8	36.9
34335	Steel heating boilers, except electric and parts	73.3	-	-	63.4	9.9
34337	Other heating equipment and parts	790.4	-	(D)	628.7	(D)
34330	Heating equipment, except electric, n.s.k.	170.5	-	-	161.2	9.3
	Other shipments by 4-digit product group:					
2514-	Metal household furniture	(X)	(D)	-	(D)	(X)
2861-	Gum and wood chemicals	(X)	-	-	(D)	(X)
3261-	Vitreous plumbing fixtures	(X)	(D)	(D)	-	(X)
3295-	Minerals, ground or treated	(X)	-	-	(D)	(X)
3321-	Gray iron foundries	(X)	-	-	(D)	(X)
3429-	Hardware, n.e.c.	(X)	-	(D)	(D)	(X)
3442-	Metal doors, sash, and trim	(X)	-	(D)	-	(X)
3443-	Fabricated platework (boiler shops)	(X)	-	-	10.8	(X)
3444-	Sheet metalwork	(X)	-	-	16.7	(X)
3451-	Screw machine products	(X)	-	(D)	-	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	-	(D)	-	(X)
3469-	Metal stampings, n.e.c.	(X)	(D)	(D)	(D)	(X)
3494-	Valves and pipe fittings	(X)	-	(D)	(D)	(X)
3498-	Fabricated pipe and fittings	(X)	-	(D)	-	(X)
3542-	Machine tools, metal forming types	(X)	(D)	-	-	(X)
3561-	Pumps and pumping equipment	(X)	-	-	(D)	(X)
3564-	Blowers and fans	(X)	-	-	(D)	(X)
3567-	Industrial furnaces and ovens	(X)	-	-	(D)	(X)
3569-	General industrial machinery, n.e.c.	(X)	-	-	(D)	(X)
3585-	Refrigeration and heating equipment	(X)	-	-	35.7	(X)
3631-	Household cooking equipment	(X)	(D)	-	20.0	(X)
3633-	Household laundry equipment	(X)	-	-	(D)	(X)
3699-	Electrical equipment and supplies, n.e.c.	(X)	-	(D)	(D)	(X)
3714-	Motor vehicle parts and accessories	(X)	-	(D)	(D)	(X)
3823-	Process control instruments	(X)	-	-	(D)	(X)
	Miscellaneous receipts:					
93000 00	Contract work	(X)	4.6	33.5	3.1	(X)
99980 13	Sales of scrap and refuse	(X)	2.7	12.8	.9	(X)
99980 98	Other miscellaneous receipts	(X)	(Z)	.9	14.5	(X)
99989 00	Resales	(X)	28.2	49.4	77.7	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3431-	3261 Vitreous plumbing fixtures	(D)
	3469 Metal stampings, n.e.c.	(D)
	3634 Electric housewares and fans	(D)
3432-	3444 Sheet metalwork	(D)
	3634 Electric housewares and fans	(D)
3433-	3321 Gray iron foundries	6.5
	3443 Fabricated platework	19.2

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3433-	3523 Farm machinery and equipment	(D)
	3559 Special industry machinery, n.e.c.	(D)
	3567 Industrial furnaces and ovens	(D)
	3585 Refrigeration and heating equipment	76.5
	3589 Service industry machinery, n.e.c.	(D)
	3631 Household cooking equipment	(D)
	3639 Household appliances, n.e.c.	19.2
	3761 Guided missiles and space vehicles	(D)
	3822 Environmentalcontrols	(D)

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a-1. Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	METAL SANITARY WARE						
3431- --	Total	.....	(NA)	(NA)	392.3	(NA)	315.6
34310 --	Metal plumbing fixtures:						
	Enameled iron and metal plumbing fixtures:						
34310 10	As reported in census of manufactures	.....	38	(NA)	335.0	(NA)	285.8
	As reported in Current Industrial Reports MQ-34E, Plumbing Fixtures (see table 6a-2 for detailed product data)	.....	(NA)	(NA)	344.7	(NA)	267.0
34310 98	Other enameled iron and metal plumbing fixtures	.....	10	(NA)	26.9	(NA)	16.2
34310 00	Metal sanitary ware, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(NA)	19.0	(NA)	11.7
34310 02	Metal sanitary ware, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(NA)	11.4	(NA)	1.9
	PLUMBING FITTINGS AND BRASS GOODS						
3432- --	Total	.....	(NA)	(X)	1,109.1	(X)	673.2
34320 --	Plumbing fixture fittings and trim (brass goods):						
34320 71	Drains and overflows, including pop-up drains sold separately (bath and shower, lavatory, and sink)	Millions	21	**7.1	46.1	(3)	(3)
34320 75	Single faucets (bath and shower, lavatory, and sink)		13	10.0	152.9	3(X)	372.0
	Bath and shower fittings, excluding drains and single faucets:						
34320 09	Thermostatic and pressure balanced bath and shower fittings		9	.1	4.4	2.2	28.4
34320 11	Single control bath and shower fittings (other than thermostatic and pressure balanced)		9	2.0	24.3		
	Other than single control fittings:						
34320 03	Bathtub fillers		12	.5	5.6	1.5	10.8
34320 05	Bathtub and shower combination		16	2.2	39.3	3.2	31.8
34320 07	Shower fittings with shower heads		11	1.2	10.5	2.1	12.1
34320 14	Shower heads sold separately		8	**2.4	13.4	(3)	(3)
34320 16	Personal showers		4	(S)	38.0	(4)	(4)
34320 20	Other bath and shower fittings		22			(3)	(3)
	Lavatory fittings, excluding drains and single faucets:						
	Combination 4 in. center-set fittings with or without pop-up drains:						
34320 21	Single control type		8	2.4	35.5	2.4	30.4
34320 24	Residential, other than single control		18	5.3	55.0	7.0	52.0
34320 25	Non-residential, other than single control		4	.3	3.8		
34320 23	Other combination fittings with or without pop-up drains		8	.3	11.5	1.8	12.0
34320 28	Other lavatory fittings		17	*17.9	34.5	(3)	(3)
	Sink fittings, excluding drains and single faucets:						
	Deck-type combination sink faucets:						
34320 34	Single control type with spray		9	1.1	17.1	4.4	56.5
34320 35	Single control type without spray		9	1.3	22.1		
34320 36	Residential, other than single control		20	3.2	34.2	5.7	45.6
34320 37	Non-residential, other than single control		5	**.2	3.9		
34320 33	Other combination sink faucets		13	* .7	12.8	1.5	10.0
34320 41	Other sink fittings, including sink strainers sold separately		19	*32.7	41.9	(3)	(3)
	Miscellaneous items:						
34320 45	P-traps		13	*11.1	25.0	15.9	21.9
34320 46	S-traps		10	25.6	8.9	2.7	5.7
34320 47	Compression stops, including those with drains		10	(S)	11.7	6.3	8.4
34320 48	Sediment, lawn, hose bibb, and sill faucets		9	8.0	19.1	(X)	14.6
34320 51	Lawn hose nozzles and lawn sprinklers		18	(S)	117.8	(X)	66.9
34320 53	Water closet tank flushing controls, except flush valves		6	5.9	12.7	(X)	20.8
34320 61	Flush valves		7	(5)	(5)	4(X)	4108.6
34320 89	Double laundry-tray faucets		8	.4	4.5		
34320 98	Other miscellaneous items	Millions	40	5(S)	5190.5		
34320 00	Plumbing fittings and brass goods, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	85.8	(X)	57.2
34320 02	Plumbing fittings and brass goods, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	26.4	(X)	7.5

See footnotes at end of table.

Table 6a-1. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	HEATING EQUIPMENT, EXCEPT ELECTRIC						
3433- --	Total	.....	(NA)	(X)	1,396.7	(X)	924.0
34333 --	Cast iron heating boilers, radiators, and convectors, except parts	.....	(NA)	(X)	187.8	(X)	152.5
	Cast iron:						
	As reported in Current Industrial Reports MA-34N, Selected Heating Equipment	Million lb.	(NA)	(X)	140.8	167.0	102.1
	As reported in census of manufactures	.....	(NA)	(X)	135.9	(X)	104.5
	Cast iron boilers	Million lb.	(NA)	*205.1	126.9	240.3	99.9
34333 11	Oil		14	*120.8	80.1	118.7	56.3
34333 15	Solid fuel		-				
34333 13	Gas	Million lb.	8	*84.3	46.8	121.6	43.6
34333 30	Cast iron radiators	.....	5	(X)	9.0	(X)	4.6
34333 50	Cast iron convectors	.....	1				
34333 81	Steel radiators and convectors, residential and industrial	Mil. sq. ft. direct rad.	3	(D)	(D)	(X)	3.3
	Aluminum and other nonferrous metal, including baseboard and finned tube types:						
34333 73	Residential		9	(S)	24.9	72.2	35.7
34333 75	Industrial and special types	Mil. sq. ft. direct rad.	5	(D)	(D)	5.1	2.9
34333 00	Cast iron heating boilers, radiators, and convectors, n.s.k.	.....	(NA)	(X)	6.7	(X)	6.1
34334 --	Domestic heating stoves (except electric), excluding parts:						
	As reported in the census of manufactures	.....	41	(X)	174.7	(X)	70.0
	As reported in Current Industrial Reports MA-34N, Selected Heating Equipment	Thousands	(NA)	(NA)	183.2	1,316.7	65.3
	Gas		(NA)	292.5	27.1	890.8	43.4
34334 11	Vented circulators		(NA)	151.6	19.4	461.1	34.3
34334 13	Unvented circulators		(NA)			370.1	7.4
34334 15	Radiants		(NA)	140.9	7.6	46.1	1.4
34334 17	All other, including laundry stoves		(NA)			13.5	.3
34334 27	Wood (sheet-metal airtight type)		(NA)	*291.2	27.1	86.3	.5
	Coal and wood, other than sheet-metal airtight type		(NA)	785.3	123.6	141.9	7.6
34334 31	Circulators (standard and magazine types)		(NA)	384.1	75.8	23.5	1.9
34334 33	Magazine radiants		(NA)	64.0	7.0	8.0	.4
34334 39	All other, including kitchen heaters, caboose, wood box, oaks, and hot blasts and laundry stoves		(NA)	323.1	35.8	110.3	5.4
	Kerosene, gasoline, and fuel oil		(NA)	235.5	10.5	197.6	13.7
34334 41	Flue-connected circulators and radiant circulators with vaporizing pot-type burners		(NA)	56.4	6.8	114.2	12.2
34334 43	Flue-connected radiant heaters (without casing) and trailer heaters, equipped with vaporizing pot-type burners		(NA)				
34334 45	Flue-connected heater equipped with sleeve burner		(NA)	179.1	3.6	83.4	1.5
34334 47	Unvented portable kerosene heaters	Thousands	(NA)				
34335 --	Steel heating boilers, except parts, (15 p.s.i. and under)	.....	(NA)	(X)	73.3	(X)	68.7
	Steel heating boilers, except parts, (15 p.s.i. working pressure and under, and all hot water boilers):						
34335 12	400,000 Btu/hr and under	Thousands	15	(S)	43.3	45.6	24.7
34335 15	Gross output of these boilers	1,000 Btu/hr	15	(S)	(X)	11,478.4	(X)
	400,000 Btu/hr and over:						
34335 21	Horizontal fire box	Thousands	3	(6)	(6)	7.8	16.3
34335 25	Gross output of these boilers	1,000 Btu/hr	3	(D)	(X)	5,072.4	(X)
34335 31	Scotch type	Thousands	5	.5	7.0	.8	5.5
34335 43	Other types	Thousands	8	6 5.3	6 20.7	12.5	15.5
34335 35	Gross output, scotch type	1,000 Btu/hr	5	(S)	(X)	3,511.2	(X)
34335 45	Gross output, other types	1,000 Btu/hr	8	(S)	(X)	5,732.0	(X)
34335 00	Steel heating boilers, n.s.k.	.....	(NA)	(X)	2.3	(X)	6.7
34337 --	Other heating equipment, except electric, including parts and nonelectric heating equipment and oil burners	.....	(NA)	(X)	790.4	(X)	565.5
	Oil burners:						
	Sold separately, except range type:						
34337 10	As reported in the census of manufactures	.....	24	(X)	79.9	(7)	(7)
	As reported in Current Industrial Reports MA-34N, Selected Heating Equipment	Thousands	(NA)	641.3	84.3	640.3	57.7
	Residential		(NA)	589.6	48.1	603.1	33.3
34337 03	High-pressure atomizing		(NA)				
34337 01	Low-pressure atomizing		(NA)	589.6	48.1	603.1	33.3
34337 05	Pot natural draft vaporizing		(NA)				
34337 07	Pot mechanical draft vaporizing		(NA)				
34337 08	Rotary (atomizing and vaporizing)	Thousands	(NA)	-	-		

See footnotes at end of table.

Table 6a-1. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	HEATING EQUIPMENT, EXCEPT ELECTRIC--Con.						
34337 --	Other heating equipment, except electric, including parts and nonelectric heating equipment and oil burners--Con.						
	Oil burners--Con.						
	Sold separately, except range type--Con.						
	As reported in Current Industrial Reports MA-34N, Selected Heating Equipment--Con.						
	Commercial and industrial	Thousands	(NA)	51.7	36.2	37.3	24.4
34337 25	Low-pressure atomizing		(NA)	34.6	17.8	19.6	8.3
34337 27	High-pressure atomizing		(NA)	17.2	18.4	17.2	15.0
34337 29	Rotary atomizing	Thousands	(NA)	(NA)	(NA)	.4	1.0
34337 15	Range type (sleeve and pot type, for use in water heaters, stoves, ranges, etc.)		1	(D)	(D)	(X)	(8)
	Gas burners for furnaces, boilers, water heaters, etc.):						
	Residential, commercial, and industrial gas burners (sold separately) and gas conversion burners:						
34337 16	Under 400,000 Btu/hr	Thousands	17	(S)	29.1	349.0	38.0
34337 18	400,000 Btu/hr and over	Thousands	10	(S)	42.1	23.7	16.9
34337 19	Parts and attachments for gas burners (sold separately)		8	(X)	9.8	(X)	15.4
	Floor and wall furnaces:						
34337 20	As reported in the census of manufactures		18	(X)	44.5	(7)	(7)
	As reported in Current Industrial Reports MA-34N, Selected Heating Equipment	Thousands	(NA)	404.0	44.0	650.0	48.0
	Gas fired:						
34337 11	Floor furnaces, including dual register		(NA)	31.6	4.4	39.1	3.8
34337 12	Wall furnaces, panel type		(NA)	367.0	38.2	600.1	42.4
	Oil fired:						
34337 13	Floor furnaces, including dual register		(NA)	5.4	1.3	10.8	1.8
34337 14	Wall furnaces, panel type	Thousands	(NA)				
	Unit heaters:						
	Gas fired, 400,000 Btu/hr and under:						
34337 30	As reported in census of manufactures		(NA)	(X)	44.3	(7)	(7)
	As reported in Current Industrial Reports MA-34N, Selected Heating Equipment	Thousands	(NA)	(NA)	44.0	180.2	32.9
34337 37	Centrifugal fan type		(NA)	9.2	6.6	10.6	4.8
34337 38	Propeller fan type	Thousands	(NA)	161.2	37.4	169.6	28.1
34337 00	Gas fired unit heaters, n.s.k		(NA)	(X)	3.8	-	-
34337 32	Steam or hot water heating element, centrifugal fan type (blower) and propeller fan type	Thousands	11	(D)	(D)	(X)	16.4
34337 35	Heavy duty gas-fired forced warm-air type (over 400,000 Btu/hr)	Thousands	-	(D)	(D)	1.4	2.1
34337 39	Duct furnaces:						
	As reported in census of manufactures		5	(X)	6.6	(7)	(7)
	As reported in Current Industrial Reports MA-34N, Selected Heating Equipment	Thousands	(NA)	17.6	7.4	32.7	8.6
34337 38	Gas fired infrared heaters	Thousands	7	*69.2	14.8	29.0	3.4
	Heater-transfer coils (blast coils):						
34337 41	Copper or aluminum		5	(X)	(D)	(X)	84.4
34337 49	All other		2	(X)	(D)	(X)	5.9
	Range boilers, expansion tanks, including basement tanks, and hot water storage tanks:						
	As reported in census of manufactures		5	(X)	13.0	(7)	(7)
	As reported in Current Industrial Reports MA-34N, Selected Heating Equipment	Thousands	(NA)	384.7	11.7	279.7	7.7
34337 50	Range boilers		(NA)			15.3	.5
34337 53	Expansion tanks, including basement tanks		(NA)	384.7	11.7	243.7	3.6
34337 55	Hot water storage tanks	Thousands	(NA)			20.7	3.6
	Mechanical stokers:						
34337 54	As reported in census of manufactures		4	(X)	11.3	7(X)	7165.3
	As reported in Current Industrial Reports MA-34N, Selected Heating Equipment	Thousands	(NA)	1.1	11.3	30.6	79.1
	Class 1 (capacity under 61 pounds of coal per hour):						
34337 56	Bituminous		(NA)				
	Anthracite:						
34337 57	Conversion stokers		(NA)	.8	.4	23.0	6.9
34337 62	Integral units		(NA)				
	Class 2 (capacity 61 to 100 pounds of coal per hour):						
34337 63	Bituminous		(NA)				
34337 64	Anthracite		(NA)				
34337 65	Class 3 (capacity 101 to 300 pounds of coal per hour)		(NA)				
34337 66	Class 4 (capacity 301 to 1,200 pounds of coal per hour)		(NA)	.3	10.9	7.6	72.2
	Class 5 (capacity 1,201 pounds of coal per hour and over:						
34337 67	Installed under fire-tube boilers		(NA)				
34337 68	Installed under water-tube boilers		(NA)				
34337 60	Unit ventilators		5	(S)	19.0	119.8	28.8
34337 61	Tanks for water heaters (sold separately)	Thousands	3	183.8	14.7	(8)	(8)

See footnotes at end of table.

Table 6a-1. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	HEATING EQUIPMENT, EXCEPT ELECTRIC--Con.						
34337 --	Other heating equipment, except electric, including parts and nonelectric heating equipment and oil burners--Con.						
34337 71	Nonelectric prefabricated metal fireplaces, all types	Thousands	8	761.5	95.5	57.0	4.9
34337 75	Solar energy collectors (water or air)	Thousands	10	23.0	14.3	[8]	[8]
34337 85	Parts and attachments for oil burners	.....	14	(X)	27.8	(X)	20.9
34337 87	Parts for unit heaters and unit ventilators, cast iron and steel heating boilers, and mechanical stokers	.....	12	(X)	23.3	(X)	16.9
34337 98	Other heating equipment, except electric, including incinerators, and other parts for heating equipment, except electric (sold separately)	.....	67	(X)	208.5	[8](X)	[8]98.3
34337 00	Other heating equipment, n.s.k.	.....	(NA)	(X)	44.2	(X)	47.9
34330 00	Heating equipment, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	82.4	(X)	52.8
34330 02	Heating equipment, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	88.1	(X)	14.5

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1972, data for product codes 34320 71, 34320 14, 34320 20, 34320 28, and 34320 41 were included with product code 34320 75.

[4]For 1972, product code 34320 16 was included with product code 34320 98.

[5]For 1977, product code 34320 61 was included with product code 34320 98.

[6]For 1977, product code 34335 21 was included with product code 34335 43.

[7]For 1972, product codes 34337 10, 34337 20, 34337 30, 34337 39, and 34337 50 were included with product code 34337 54.

[8]For 1972, product codes 34337 15, 34337 61, and 34337 75 were included with product code 34337 98.

Table 6a-2. Products and Product Classes — Production, Shipments, and Year-End Stocks of Metal Plumbing Fixtures: 1977 and 1972

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977					1972			
					Product shipments				Product shipments		
			Number of companies	Quantity produced	Quantity	Value ($1,000)	Stocks, end of year	Quantity produced	Quantity	Value ($1,000)	Stocks, end of year
	Drinking fountains:										
34310 12	Cast iron	Units...									
34310 13	Steel		7								
34310 14	Aluminum and other metals			42,979	40,365	2,249	6,210	61,870	61,733	2,422	2,238
32610 12	Vitreous china										
32722 73	Concrete and other nonmetals		9								
	Lavatories:										
34310 17	Cast iron		6	845,538	851,385	25,794	88,279	1,672,458	1,701,356	27,288	185,532
34310 18	Steel		15	1,444,772	1,568,651	15,449	110,678	1,840,800	1,900,204	11,998	216,832
34310 19	Aluminum and other metals										
	Urinals:										
34310 36	Cast iron		6	7,331	7,216	761	659	4,716	5,138	320	725
34310 39	Aluminum and other metals										
	Kitchen sinks:										
34310 42	Porcelain enameled		15	1,029,009	1,238,981	14,696	164,561	2,045,770	2,109,987	19,072	293,914
34310 46	Stainless steel		(1)	(1)	(1)	(1)	(1)	2,590,466	2,510,412	40,051	196,009
34310 41	Cast iron		5	482,650	484,507	23,073	48,175				
34310 48	Aluminum and other metals		(1)	(1)	(1)	(1)	(1)	587,789	578,235	13,000	70,048
32610 45	Vitreous china		(1)	(1)	(1)	(1)	(1)				
32610 46	Glazed earthware		[1]17	[1]3,325,562	[1]3,309,871	[1]77,619	[1]245,291				
34310 52, 53, 55; 32610 52, 53; 32722 83	Wash sinks (cast iron, steel, concrete, and other nonmetals)							19,282	18,265	4,335	5,227
	Service sinks:										
34310 55	Cast iron		(NA)	284,194	279,997	16,605	33,485				
34310 59	Steel										
34310 56	Vitreous china							99,336	97,905	4,883	16,657
32610 57	Glazed earthenware										
	Sink and laundry tray combinations:										
34310 61	Cast iron		4					13,062	12,927	459	3,535
34310 63	Steel		-								
34310 66, 67; 32610 66, 67; 32722 89	Laundry trays (cast iron, vitreous china, and glazed earthenware)		5	25,513	24,568	1,191	2,854	28,556	28,455	752	3,688
	Bathtubs:										
34310 71	Cast iron		4	821,519	826,210	103,056	45,973	1,424,596	1,444,985	88,422	56,069
34310 72	Steel										
32610 72	Glazed earthenware		12	1,252,598	1,326,527	60,188	63,182	1,794,674	1,807,872	51,834	122,913
34310 75, 76; 32722 91	Shower receptors, sold separately (cast iron, steel, and nonmetal other than vitreous china or glazed earthenware)		6	(X)	(X)		(X)	(X)	(X)		(X)
	Shower stalls, including receptors:					17,486				8,255	
34310 81, 83, 85; 32610 81	Steel, aluminum, and other metals, and vitreous china	Units...	11	158,331	157,425		[2]5,369	145,548	144,863		7,752
34310 00	Metal plumbing fixtures, n.s.k.	.....	(NA)	(X)	(X)	21.0	(X)	-	-	-	-

Source: Current Industrial Report, MQ-34E, Plumbing Fixtures.
- Represents zero. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable.
[1]For 1977, product codes 34310 46, 34310 48, and 32610 45 were combined with product code 32610 46.
[2]26 to 50 percent was estimated.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34333, CAST IRON HEATING BOILERS, RADIATORS, CONVECTORS		
United States	187.8	152.5
Middle Atlantic Division:		
New York	42.9	55.6
Pennsylvania	60.5	40.5
34334, DOMESTIC HEATING STOVES, EXCLUDING ELECTRIC AND PARTS		
United States	174.7	70.0
East North Central Division:		
Michigan	4.6	BB
34335, STEEL HEATING BOILERS, EXCEPT ELECTRIC AND PARTS		
United States	73.3	68.7
Middle Atlantic Division:		
Pennsylvania	31.5	26.8
West South Central Division:		
Texas	5.7	(NA)
34337, OTHER HEATING EQUIPMENT AND PARTS		
United States	790.4	565.5
New England Division:		
Massachusetts	6.6	BB
Connecticut	15.6	9.5
Middle Atlantic Division:		
New York	33.9	21.8
New Jersey	18.7	18.2
Pennsylvania	86.0	51.1
East North Central Division:		
Ohio	58.7	49.0
Indiana	52.1	76.3
Illinois	64.6	59.2
Michigan	41.3	34.1
Wisconsin	35.7	22.1
West North Central Division:		
Missouri	17.9	5.0
Kansas	23.3	15.2
South Atlantic Division:		
Virginia	30.4	20.2
North Carolina	19.4	EE
East South Central Division:		
Tenessee	36.3	28.8
Pacific Division:		
Washington	2.7	AA
California	80.2	40.3

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
34310	Metal plumbing fixtures	392.3	328.8	336.9	340.9	320.1	315.6	213.1	180.0
34320	Plumbing fittings and brass goods	1,109.1	942.4	740.0	751.8	716.6	673.2	404.6	329.6
3433-	Heating equipment, except electric	1,396.7	1,082.3	904.2	998.4	1,015.1	924.0	738.9	688.8
34333	Cast iron heating boilers, radiators, convectors	187.8	163.4	134.2	134.2	157.2	152.5	133.3	138.9
34334	Domestic heating stoves, excluding electric and parts	174.7	99.3	79.6	53.3	61.7	70.0	50.1	79.1
34335	Steel heating boilers, except electric and parts	73.3	113.4	85.3	76.2	74.5	68.7	67.0	70.3
34337	Other heating equipment and parts	790.4	671.2	575.1	690.2	659.5	565.5	414.9	359.3
34330	Heating equipment, except electric, n.s.k.	170.5	(35.0)	(30.0)	(44.5)	62.2	67.3	73.6	41.2

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3431, METAL SANITARY WARE					
	Materials, parts, containers, and supplies		(X)	185.4	(X)	136.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons			.3	.1
331012	Sheet and strip				62.8	14.4
331013	Plates		62.1	28.6		
331019	All other				22.5	6.1
	Alloy steel, except stainless:					
331021	Bars and bar shapes		-	-		
331029	All other		(D)	(D)		
	Stainless steel:				21.5	20.3
331033	Sheet and strip		**18.6	28.4		
331050	All other	1,000 s. tons	*2.3	3.8		
335792	Insulated copper wire and cable, except magnetic wire	Million lb	-	-	(2)	(2)
	Copper and copper base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(D)	(D)	4.2	2.3
335143	Plate, sheet, and strip, including military cups and discs		-	-		
335152	Pipe and tube		(D)	(D)	1.4	1.2
	Aluminum and aluminum-base alloy:					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(D)	(D)	(D)	(D)
335008	All other wire, rolled rod, sheet, plate, foil, etc	Million lb	(D)	(D)	-	-
	Primary metals:					
331051	Pig iron, excluding silvery iron	1,000 s. tons	(D)	(D)	54.5	4.2
333401	Aluminum and aluminum-base alloy refinery shapes		(D)	(D)	-	-
333122	Copper and copper-base alloy refinery shapes		(D)	(D)	(D)	(D)
	Scrap, excluding home scrap:					
999811	Iron and steel		(D)	(D)	192.2	7.5
999812	Copper and copper-base alloy		-	-	(2)	(2)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)		(D)	(D)	(D)	(D)
332045	Steel	1,000 s. tons	(D)	(D)	(D)	(D)
336100	Aluminum and aluminum-base alloy	Million lb	(D)	(D)	(D)	(D)
336200	Copper and copper-base alloy	Million lb	(D)	(D)	7.1	4.8
346200	Iron and steel forgings	1,000 s. tons	(D)	(D)	(D)	(D)
307902	Fabricated plastics products, except gaskets		(X)	(D)	(2)	(2)
329300	Gaskets (all type) and asbestos packing		(X)	(D)	(2)	(2)
346901	Metal stampings		(X)	3.5	(2)	(2)
349012	Fabricated wire products		(X)	(D)	(2)	(2)
970099	All other materials and components, parts, containers, and supplies		(X)	54.4	[2](X)	[2]51.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	28.5	(X)	14.3
	INDUSTRY 3432, PLUMBING FITTINGS AND BRASS GOODS					
	Materials, parts, containers, and supplies		(X)	539.9	(X)	332.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons				
331012	Sheet and strip					
331013	Plates		*9.9	4.7		
331019	All other					
	Alloy steel, except stainless:				35.7	14.1
331021	Bars and bar shapes		(S)	.9		
331029	All other					
	Stainless steel:					
331033	Sheet and strip		1.9	7.9		
331050	All other	1,000 s. tons	*1.3	3.0		
335792	Insulated copper wire and cable, except magnetic wire	Million lb	-	-	(D)	(D)
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		116.4	70.4	100.2	46.4
335143	Plate, sheet, and strip, including military cups and discs		(S)	16.4	20.2	12.3
335152	Pipe and tube		(S)	53.7	40.3	30.1
	Aluminum and aluminum-base alloy:					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**.6	.6	(X)	1.7
335008	All other wire, rolled rod, sheet, plate, foil, etc	Million lb	(D)	(D)		

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3432, PLUMBING FITTINGS AND BRASS GOODS--Con.					
	Primary metals:					
331051	Pig iron, excluding silvery iron	1,000 s. tons	-	-	(D)	(D)
333401	Aluminum and aluminum-base alloy refinery shapes		(D)	(D)	(D)	(D)
333122	Copper and copper-base alloy refinery shapes		*21.1	21.6	(X)	15.5
	Scrap, excluding home scrap:					
999811	Iron and steel		-	-	(D)	(D)
999812	Copper and copper-base alloy		(D)	(D)	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)		6.8	5.6	5.6	2.5
332045	Steel	1,000 s. tons	(D)	(D)	(D)	(D)
336100	Aluminum and aluminum-base alloy	Million lb	(D)	(D)	(D)	(D)
336200	Copper and copper-base alloy	Million lb	**35.0	46.4	47.6	40.3
346200	Iron and steel forgings	1,000 s. tons	(D)	(D)	(D)	(D)
307902	Fabricated plastics products, except gaskets		(X)	18.2		
329300	Gaskets (all type) and asbestos packing		(X)	2.6		
346901	Metal stampings		(X)	11.0	(X)	119.1
349012	Fabricated wire products		(X)	.6		
970099	All other materials and components, parts, containers, and supplies		(X)	182.8		
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	90.4	(X)	46.8
	INDUSTRY 3433, HEATING EQUIPMENT, EXCEPT ELECTRIC					
	Materials, parts, containers, and supplies		(X)	626.7	(X)	472.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	3.4	9.3	2.5
331012	Sheet and strip		160.9	67.6	218.4	44.1
331013	Plates		22.3	7.3	16.1	3.6
331015	Structural shapes		3.9	1.5	5.2	1.2
331017	Wire and wire products		(S)	1.0	3.4	1.0
331019	All other carbon steel mill shapes and forms		(S)	8.6	18.4	6.5
331020	Alloy steel, except stainless		4.5	2.6	6.8	2.5
	Stainless steel:					
331033	Sheet and strip		5.6	10.2	5.7	6.9
331050	All other carbon steel mill shapes and forms	1,000 s. tons	(S)	1.9	1.0	1.4
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	2.2	2.4	1.8
335143	Plate, sheet, and strip, including military cups and discs		*.7	1.1	.7	.7
335152	Pipe and tube		**9.6	11.8	22.6	17.9
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	8.2	35.0	14.8
335008	All other wire, rolled rod and bar, powder, welding tubing, extruded shapes, etc	Million lb	3.8	4.6	5.1	2.6
331051	Pig iron, excluding silvery iron	1,000 s. tons	(S)	3.1	26.3	2.0
999811	Iron and steel scrap, excluding home scrap		*53.2	4.1	95.5	3.9
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons	*41.4	31.4	25.0	10.8
336100	Aluminum and aluminum-base alloy	Million lb	*2.1	3.4	1.6	2.3
336200	Copper and copper-base alloy	Million lb	.8	1.0	1.2	1.4
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	5.9	(X)	[4]6.0
346901	Metal stampings		(X)	4.4	(X)	[4]9.0
349402	Fabricated metal pipe, valves, and pipe fittings		(X)	8.9	(X)	[4]14.0
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous	Thousands	(S)	.8	(X)	3.1
362115	Other fractional horsepower electric motors, excluding timing motors		1,769.2	35.7	1,583.4	17.2
362120	Integral horsepower motors and generators (1 hp and over)	Thousands	(S)	11.3	31.1	2.8
	Bearings:					
356218	Ball		(X)	.1	(X)	.2
356201	Roller		(X)	([5])	(X)	.1
382201	Automatic temperature controls (thermostats, regulators, etc.)		(X)	33.7	(X)	26.3
343309	Parts and attachments specially designed for heating equipment, except electric		(X)	33.5	(X)	[4]32.0
265001	Paperboard boxes and containers		(X)	9.5	(X)	[4]9.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	4.2	(X)	[4]7.0
970099	All other materials and components, parts, containers, and supplies		(X)	[5]128.6	(X)	[4]141.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	175.2	(X)	75.7

Footnotes are on next page.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 335792, 999812, 307902, 329300, 346901, and 349012 were combined with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[5]For 1977, material code 356201 was combined with material code 970099 to avoid disclosing operations of individual companies.

Fabricated Structural Metal Products

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DESCRIPTION OF INDUSTRIES

FABRICATED STRUCTURAL METAL PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3441	Fabricated Structural Metal
3442	Metal Doors, Sash, and Trim
3443	Fabricated Plate Work (Boiler Shops)
3444	Sheet Metal Work
3446	Architectural Metal Work
3448	Prefabricated Metal Buildings
3449	Miscellaneous Metal Work

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3441, FABRICATED STRUCTURAL METAL

This industry comprises establishments primarily engaged in the manufacture of fabricated iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges. Establishments primarily engaged in the manufacture of metal doors, sash, frames, moldings, and trim are classified in industry 3442; and establishments doing fabrication work at the site of construction are classified in construction industries.

The total value of shipments for establishments classified in the Fabricated Structural Metal industry amounted to $5,505 million in 1977, an increase of 40 percent from 1972. The value of shipments of products classified as primary to the industry was $4,861 million, an increase of 47 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were fabricated structural metal for buildings, for which shipments increased 33 percent, and other fabricated structural metal for ship, boats, and barges, for which shipments increased 31 percent. Value added by manufacture, at $2,560 million in 1977, was 48 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 99.3 thousand employees, a decrease of 5 percent from 1972. The leading States in employment were Texas, Pennsylvania, California, and Rhode Island, accounting for approximately 30 percent of the industry's 1977 employment. Data for Rhode Island have been withheld to avoid disclosing operations of individual companies However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

INDUSTRY 3442, METAL DOORS, SASH, AND TRIM

This industry comprises establishments primarily engaged in the manufacture of ferrous and nonferrous metal and metal covered doors and sash, window and door frames and screens, molding, and trim.

The total value of shipments for establishments classified in the Metal Doors, Sash, and Trim industry amounted to $3,136 million in 1977, an increase of 51 percent from 1972. The value of shipments of products classified as primary to the industry was $2,974 million, an increase of 56 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were metal doors and frames, except storm doors, for which shipments increased 59 percent, and metal window sash and frames, except storm sash, for which shipments

increased 57 percent. Value added by manufacture, at $1,418 million in 1977, was 41 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 65.8 thousand employees, a decrease of 7 percent from 1972. The leading States in employment were California, Texas, New York, and Ohio, accounting for approximately 35 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)

This industry comprised establishments primarily engaged in the manufacture of power and marine boilers, pressure and non-pressure tanks, processing storage vessels, heat exchangers weldments, and similar products by the process of cutting, forming, and joining metal plates, shapes, bars, sheet, pipe mill products, and tubing to custom or standard design for factory or field assembly. Establishments primarily engaged in the manufacture of warm air heating furnaces and classified in industry 3585, other nonelectric heating apparatus except power boilers in industry 3433, and household cooking apparatus in industry 3631.

This industry comprises establishments primarily engaged in the manufacture of power and marine boilers, pressure and non-weldments, and similar products by the process of cutting, forming, and joining metal plates, shapes, bars, sheet, pipe mill products, and tubing to custom or standard design for factory or field assembly. Establishments primarily engaged in the manufacture of warm air heating furnances and classified in industry 3585, other nonelectric heating apparatus except power boilers in industry 3433, and household cooking apparatus in industry 3631.

The total value of shipments for establishments classified in the Fabricated Plate Work (Boiler Shops) industry amounted to $7,432 million in 1977, an increase of 123 percent from 1972. The value of shipments of products classified as primary to the industry was $6,641 million, an increase of 103 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were fabricated steel plate, for which shipments increased 77 percent, and custom fabricated metal tanks and vessels, for which shipments increased 102 percent. Value added by manufacture, at $4,075 million in 1977, was 132 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 123.5 thousand employees, an increase of 33 percent from 1972. The leading States in employment were Pennsylvania, Texas, Ohio, and California, accounting for approximately 35 percent of the industry's 1977 employment. This represents a shift from 1972 when Pennsylvania, Ohio, Texas, and Tennessee accounted for approximately 40 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 3444, SHEET METAL WORK

This industry comprises establishments primarily engaged in the manufacture of sheet metal work for buildings (not including fabrication work done by construction contractors at the place of construction) and manufacturing sheet metal stovepipes, light tanks, etc.

The total value of shipments for establishments classified in the Sheet Metal Work industry amounted to $4,864 million in 1977, an increase of 81 percent from 1972. The value of shipments of products classified as primary to the industry was $4,608 million, an increase of 74 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were metal flooring and siding for which shipments increased 157 percent. Value added by manufacture, at $2,095 million in 1977, was 61 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 77.4 thousand employees, an increase of 5 percent from 1972. The leading States in employment were California, Ohio, Pennsylvania, and New York, accounting for approximately 35 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 35 percent of the industry's employment although there has been some shift in the relatively importance of individual States.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of shipments.

INDUSTRY 3446, ARCHITECURAL METAL WORK

This industry comprises establishments primarily engaged in the manufacture of architectural and ornamental metal work of ferrous and nonferrous metals, such as stairs and staircases, open steel flooring (grating), fire escapes, grilles, railings, and fences

and gates, except those made from wire. Establishments primarily engaged in the manufacture of prefabricated and portable metal buildings and parts are classified in industry 3448 and miscellaneous metal work in industry 3449.

The total value of shipments for establishments classified in the Architectural Metal Work industry amounted to $947 million in 1977, an increase of 65 percent from 1972. The value of shipments of products classified as primary to the industry was $951 million, an increase of 61 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were iron and steel open flooring and grating for building construction, for which shipments increased 128 percent. Value added by manufacture at $506 million in 1977, was 62 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 20.8 thousand employees, a decrease of 1 percent from 1972. The leading States in employment were Pennsylvania, California, Ohio, and Texas, accounting for approximately 40 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 11 percent of total value of shipments.

INDUSTRY 3448, PREFABRICATED METAL BUILDINGS

This industry comprises establishments primarily engaged in the manufacture of prefabricated and portable metal buildings and parts, and prefabricated exterior metal panels.

The total value of shipments for establishments classified in the prefabricated metal buildings industry amounted to $1,779 million in 1977, an increase of 192 percent from 1972. The value of shipments of products classified as primary to the industry was $1,656 million, an increase of 186 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $695 million in 1977, was 152 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 22.7 thousand employees, an increase of 86 percent from 1972. The leading States in employment were Texas, Illinois, California, and Ohio, accounting for approximately 35 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 3449, MISCELLANEOUS METAL WORK

This industry comprises establishments primarily engaged in the manufacture of miscellaneous ferrous and nonferrous metal work, such as metal plaster bases, fabricated bar joists, and concrete reinforging bars.

The total value of shipments for establishments classified in the Miscellaneous Metal Work industry amounted to $1,331 million in 1977, an increase of 36 percent from 1972. The value of shipments of products classified as primary to the industry was $1,333 million, an increase of 34 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were fabricated bar joists, for which shipments increased 57 percent and fabricated concrete reinforcing bars, for which shipments increased 49 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $437 million in 1977, was 21 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 16.3 thousand employees, a decrease of 16 percent from 1972. The leading States in employment were Texas, California, Ohio, and Florida, accounting for approximately 30 percent of the industry's 1977 employment. This represents a shift from 1972 when California, Texas, Illinois, and Ohio accounted for approximately 35 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3441, FABRICATED STRUCTURAL METAL																
1977 Census--	2 319	2 462	1 074	99.3	1 313.6	72.8	144.2	836.9	2 559.8	3 018.0	5 505.2	144.1	(NA)	1 220.9	92	92
1976 ASM----	(NA)	(NA)	(D)	96.6	1 222.7	71.3	140.2	792.5	2 368.3	2 790.9	5 204.7	130.0	1 217.0	1 124.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(D)	103.4	1 220.8	76.8	150.3	800.3	2 556.4	2 823.4	5 355.2	115.6	1 193.4	1 232.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	103.6	1 105.5	77.1	153.1	717.1	2 109.4	2 786.4	4 841.3	81.6	1 047.7	1 175.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	105.4	1 022.5	77.9	153.1	667.8	1 863.0	2 353.3	4 189.9	84.3	1 104.4	890.3	(NA)	(NA)
1972 Census--	2 010	2 154	1 094	104.3	975.5	76.9	152.3	635.4	1 730.7	2 199.9	3 920.1	74.7	1 114.6	828.5	89	93
1971 ASM----	(NA)	(NA)	(NA)	96.3	848.2	71.3	143.5	559.6	1 595.8	1 839.5	3 397.9	49.2	906.2	793.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	100.0	835.2	74.0	150.0	548.2	1 459.0	1 719.1	3 162.2	59.8	904.5	715.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	104.5	827.4	77.3	157.7	545.0	1 411.2	1 654.9	3 055.9	50.0	788.9	663.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	104.4	793.5	77.5	157.9	518.2	1 344.8	1 642.1	2 993.0	61.0	801.9	615.3	(NA)	(NA)
1967 Census--	1 865	1 960	1 035	107.5	773.6	80.1	163.6	509.9	1 319.3	1 624.6	2 967.8	76.6	767.8	599.8	89	91
1966 ASM----	(NA)	(NA)	(NA)	97.4	665.2	73.4	148.5	443.8	1 059.7	1 498.6	2 601.7	46.1	(NA)	614.4	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	93.1	609.7	69.8	141.6	405.2	1 038.7	1 357.2	2 314.5	54.9	(NA)	659.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	88.1	562.1	65.5	134.9	376.1	877.2	1 252.8	2 097.7	37.9	549.7	531.1	(NA)	(NA)
1963 Census--	1 636	1 718	817	85.4	527.2	63.7	127.9	350.3	814.8	1 141.0	1 916.0	28.2	518.1	497.9	86	89
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM																
1977 Census--	1 498	1 672	644	65.8	671.3	50.1	97.0	425.0	1 418.3	1 751.5	3 135.6	70.7	(NA)	519.0	93	91
1976 ASM----	(NA)	(NA)	(NA)	56.4	528.2	42.8	83.1	333.9	1 086.5	1 285.7	2 347.6	53.2	463.0	403.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	53.7	466.2	40.1	75.9	291.7	924.3	1 098.6	2 034.8	34.3	426.2	352.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	66.6	536.3	50.3	97.0	348.9	1 061.3	1 193.4	2 233.9	44.7	442.9	405.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	69.6	533.7	51.9	101.3	341.5	1 011.5	1 087.1	2 084.2	50.7	470.5	342.8	(NA)	(NA)
1972 Census--	1 391	1 558	646	70.7	520.8	53.0	104.2	330.3	1 003.7	1 085.0	2 077.6	52.1	488.1	309.4	90	91
1971 ASM----	(NA)	(NA)	(NA)	63.0	442.0	47.0	91.6	275.6	854.1	926.2	1 768.1	42.4	382.9	275.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	62.3	416.3	45.9	89.8	259.4	765.5	803.4	1 546.5	43.3	384.6	251.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	63.4	414.5	47.7	93.5	256.5	734.8	803.6	1 539.1	28.4	310.2	223.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	62.4	386.1	47.0	91.7	242.1	707.2	780.2	1 473.7	22.7	315.0	217.0	(NA)	(NA)
1967 Census--	1 540	1 646	597	63.9	378.5	47.9	94.8	235.7	651.1	764.6	1 413.6	24.3	316.2	208.9	91	94
1966 ASM----	(NA)	(NA)	(NA)	63.8	360.5	46.3	96.8	222.0	638.5	767.1	1 397.2	24.9	(NA)	216.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	63.7	348.1	45.4	96.4	213.1	607.5	725.9	1 323.4	25.0	(NA)	194.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	63.1	333.7	45.5	93.2	203.9	568.7	704.0	1 271.3	21.1	285.2	183.6	(NA)	(NA)
1963 Census--	1 712	1 817	628	62.8	324.8	46.6	95.7	206.1	570.4	681.4	1 253.8	21.3	271.8	180.0	88	94
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)																
1977 Census--	1 683	1 864	944	123.5	1 777.8	87.7	171.6	1 125.8	4 075.3	3 395.3	7 432.4	179.8	(NA)	1 566.9	89	92
1976 ASM----	(NA)	(NA)	(NA)	119.6	1 547.5	87.1	174.2	1 030.6	3 358.8	3 093.0	6 452.8	196.4	1 784.6	1 460.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	115.5	1 433.6	84.4	169.0	963.7	2 960.5	2 986.8	5 917.8	182.6	1 567.7	1 455.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	115.8	1 271.8	83.8	171.7	843.8	2 675.0	2 583.3	4 983.9	149.0	1 368.9	1 284.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	101.9	1 049.2	75.3	147.8	698.8	2 093.8	1 925.5	3 955.8	96.2	1 006.4	798.0	(NA)	(NA)
1972 Census--	1 349	1 486	795	93.0	893.5	67.9	133.5	593.2	1 758.7	1 633.2	3 339.0	77.3	978.0	643.4	92	87
1971 ASM----	(NA)	(NA)	(NA)	97.2	892.3	68.5	136.6	557.4	1 877.5	1 568.5	3 462.7	72.2	1 116.2	675.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	99.6	839.8	72.9	148.2	557.8	1 859.8	1 588.8	3 401.9	76.9	1 056.3	653.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	101.3	818.0	73.9	151.1	531.8	1 482.8	1 438.1	2 900.6	94.2	905.1	624.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	97.5	744.5	71.8	146.3	489.8	1 431.0	1 401.0	2 736.6	89.0	817.2	605.3	(NA)	(NA)
1967 Census--	1 346	1 465	784	96.4	700.4	73.1	150.4	477.5	1 393.4	1 303.9	2 688.5	81.9	781.2	510.6	91	85
1966 ASM----	(NA)	(NA)	(NA)	90.9	631.7	67.5	139.8	419.9	1 181.2	1 188.3	2 323.3	62.1	(NA)	464.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	84.1	559.2	62.5	129.0	374.5	1 006.7	1 037.7	2 000.2	45.5	(NA)	419.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	76.2	497.9	56.4	116.6	334.4	847.6	901.2	1 744.4	39.2	630.7	337.4	(NA)	(NA)
1963 Census--	1 301	1 383	601	75.0	465.4	54.6	111.4	310.5	770.1	860.6	1 623.0	32.9	598.6	319.5	89	83
INDUSTRY 3444, SHEET METAL WORK																
1977 Census--	3 223	3 430	1 008	77.4	980.2	56.7	109.5	636.6	2 095.2	2 808.9	4 863.5	110.6	(NA)	841.9	92	90
1976 ASM----	(NA)	(NA)	(NA)	73.0	872.0	52.8	100.2	564.8	1 865.8	2 473.9	4 284.2	189.8	908.5	716.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	69.0	778.9	50.1	95.0	503.1	1 546.2	1 948.7	3 527.5	77.3	747.3	616.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	78.6	825.1	59.2	114.8	559.8	1 818.5	2 030.0	3 752.2	74.3	717.9	695.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	81.5	784.3	62.7	120.3	532.4	1 606.7	1 693.0	3 277.3	195.9	607.2	428.2	(NA)	(NA)
1972 Census--	2 960	3 117	933	74.0	678.5	55.4	108.3	453.6	1 299.9	1 399.3	2 680.0	59.0	589.0	404.2	90	84
1971 ASM----	(NA)	(NA)	(NA)	61.5	527.2	45.4	90.6	354.2	973.4	945.2	1 925.4	43.1	459.1	298.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	63.6	535.4	47.9	95.4	355.5	1 017.9	953.4	1 970.7	42.5	467.1	292.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	70.7	565.7	54.7	109.0	386.3	1 009.4	1 019.0	2 044.3	48.7	484.9	295.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	68.4	515.8	52.6	104.3	349.1	938.4	967.2	1 897.1	45.9	484.7	293.3	(NA)	(NA)
1967 Census--	2 942	3 054	811	68.1	490.7	52.9	105.8	336.0	889.3	927.5	1 812.4	44.4	456.7	254.2	88	83
1966 ASM----	(NA)	(NA)	(NA)	71.9	501.8	56.3	115.3	349.0	883.1	950.5	1 834.8	40.7	(NA)	268.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	66.4	428.9	52.0	109.0	299.9	753.5	839.3	1 577.9	33.8	(NA)	224.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	62.9	395.3	48.7	101.1	278.4	693.2	702.1	1 385.4	28.6	348.1	197.5	(NA)	(NA)
1963 Census--	31	3 250	755	61.7	373.3	48.0	97.1	264.7	632.4	669.8	1 303.7	26.2	327.0	189.1	88	78

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3446, ARCHITECTURAL METAL WORK																
1977 Census--	1 477	1 511	225	20.8	247.7	15.1	29.4	152.3	505.5	450.8	947.1	22.2	(NA)	167.3	90	86
1976 ASM----	(NA)	(NA)	(NA)	22.6	238.2	16.8	31.9	153.5	472.7	392.6	861.8	26.5	209.2	133.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	22.5	218.4	16.9	31.0	141.0	432.0	380.9	815.8	14.7	193.0	129.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	24.2	221.3	18.9	35.1	148.4	435.8	394.6	818.6	13.7	181.1	141.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	22.7	201.3	17.1	32.8	129.5	440.9	316.3	750.6	21.6	206.9	112.1	(NA)	(NA)
1972 Census--	1 430	1 459	250	20.9	175.4	15.6	29.5	108.7	311.8	269.6	573.7	17.0	(S)	93.0	88	81
1971 ASM----	(NA)	(NA)	(NA)	17.7	137.1	13.6	25.8	88.7	258.5	204.2	460.0	20.8	121.3	69.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	20.6	149.6	16.3	31.8	99.7	254.4	230.2	489.3	10.9	126.9	73.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	20.7	140.5	16.7	30.7	92.7	264.0	233.2	491.8	12.2	118.6	81.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	19.2	126.4	15.5	28.5	82.3	233.0	243.6	470.0	7.5	107.1	70.2	(NA)	(NA)
1967 Census--	1 360	1 377	198	19.3	123.0	15.4	29.5	81.5	232.5	254.6	484.9	7.4	101.5	60.0	83	77
1966 ASM----	(NA)	(NA)	(NA)	17.5	107.7	13.8	28.0	76.5	191.9	153.3	342.0	8.9	(NA)	37.6	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	16.9	99.7	13.1	27.8	69.5	172.3	145.5	313.1	7.7	(NA)	39.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	14.8	86.4	11.8	23.5	61.4	156.1	135.6	292.1	8.5	65.2	54.0	(NA)	(NA)
1963 Census--	1 326	1 334	173	15.6	87.0	12.5	24.2	60.6	148.8	119.3	269.3	6.1	59.0	39.4	86	71
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS[3]																
1977 Census--	415	466	199	22.7	289.7	15.9	31.6	174.9	694.5	1 100.6	1 779.2	32.2	(NA)	304.6	94	95
1976 ASM----	(NA)	(NA)	(NA)	15.0	174.8	10.3	19.8	101.2	428.0	654.1	1 077.4	15.3	257.7	215.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	14.6	158.8	9.4	18.0	87.7	353.8	526.0	895.4	31.6	252.0	193.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	18.4	186.4	13.3	26.7	119.9	487.5	657.9	1 119.1	44.5	220.9	249.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	16.3	153.2	12.0	25.7	100.6	404.4	498.6	892.4	22.9	170.0	156.1	(NA)	(NA)
1972 Census--	143	159	88	12.5	109.4	8.9	17.5	68.6	275.9	338.5	608.9	11.3	146.2	103.7	89	90
INDUSTRY 3449, MISCELLANEOUS METAL WORK[3]																
1977 Census--	308	412	185	16.3	211.5	10.2	20.2	115.7	436.9	893.6	1 330.8	20.5	(NA)	211.8	91	78
1976 ASM----	(NA)	(NA)	(NA)	18.2	218.6	12.1	23.3	124.0	468.3	882.3	1 355.5	26.7	285.2	240.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	18.9	211.3	12.2	23.4	114.1	483.4	852.0	1 353.4	26.4	258.7	237.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	21.0	215.2	14.0	27.6	125.2	565.8	1 026.9	1 561.4	17.5	228.2	286.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	20.6	199.1	13.8	26.9	115.7	452.7	728.4	1 176.7	25.2	223.2	186.0	(NA)	(NA)
1972 Census--	336	418	220	19.5	178.8	13.1	25.6	102.2	362.2	619.0	980.4	26.2	210.3	152.4	91	76

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3441, FABRICATED STRUCTURAL METAL											
1977 Census--	13 228	(NA)	73	1 981	5.80	54	78	(NA)	25 777	51	17.75
1976 ASM----	12 657	12 598	73	1 966	5.65	53	77	23	24 516	51	16.89
1975 ASM----	11 806	11 541	74	1 957	5.32	52	75	22	24 723	47	17.00
1974 ASM----	10 670	10 112	74	1 985	4.68	57	80	21	20 361	52	13.77
1973 ASM----	9 701	10 478	73	1 965	4.36	56	80	26	17 675	54	12.16
1972 Census--	9 352	10 686	73	1 980	4.17	56	81	28	16 593	56	11.36
1971 ASM----	8 807	9 410	74	2 012	3.89	54	79	26	16 571	53	11.12
1970 ASM----	8 352	9 045	74	2 027	3.65	54	80	28	14 590	57	9.72
1969 ASM----	7 917	7 549	73	2 040	3.45	54	81	25	13 504	58	8.94
1968 ASM----	7 600	7 681	74	2 037	3.28	54	81	26	12 881	59	8.51
1967 Census--	7 196	7 142	74	2 042	3.11	54	80	25	12 272	58	8.06
1966 ASM----	6 829	(NA)	75	2 023	2.98	57	83	(NA)	10 879	62	7.13
1965 ASM----	6 548	(NA)	74	2 028	2.86	58	84	(NA)	11 156	58	7.33
1964 ASM----	6 380	6 239	74	2 059	2.78	59	86	26	9 956	64	6.50
1963 Census--	6 173	6 066	74	2 007	2.73	59	87	27	9 540	64	6.37
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM											
1977 Census--	10 200	(NA)	76	1 936	4.37	55	77	(NA)	21 551	47	14.61
1976 ASM----	9 365	8 209	75	1 941	4.01	54	77	19	19 264	48	13.07
1975 ASM----	8 681	7 936	74	1 892	3.84	53	76	20	17 212	50	12.17
1974 ASM----	8 052	6 650	75	1 928	3.59	53	77	19	15 935	50	10.94
1973 ASM----	7 668	6 760	74	1 951	3.37	52	77	22	14 533	52	9.98
1972 Census--	7 366	6 903	74	1 966	3.16	52	77	23	14 196	51	9.63
1971 ASM----	7 015	6 077	74	1 948	3.00	52	77	21	13 557	51	9.32
1970 ASM----	6 682	6 173	73	1 956	2.88	51	78	24	12 287	54	8.52
1969 ASM----	6 537	4 892	75	1 960	2.74	52	79	20	11 589	56	7.85
1968 ASM----	6 187	5 048	75	1 951	2.64	52	79	21	11 333	54	7.71
1967 Census--	5 923	4 948	74	1 979	2.48	54	80	22	10 189	58	6.86
1966 ASM----	5 650	(NA)	72	2 090	2.29	54	80	(NA)	10 007	56	6.59
1965 ASM----	5 464	(NA)	71	2 123	2.21	54	81	(NA)	9 536	57	6.30
1964 ASM----	5 288	4 519	72	2 048	2.18	55	81	22	9 012	58	6.10
1963 Census--	5 171	4 328	74	2 053	2.15	54	80	21	9 082	56	5.96
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)											
1977 Census--	14 400	(NA)	71	1 955	6.56	45	69	(NA)	33 009	43	23.75
1976 ASM----	12 938	14 921	72	2 000	5.91	47	71	27	28 083	46	19.28
1975 ASM----	12 412	13 573	73	2 002	5.70	50	74	26	25 632	48	17.51
1974 ASM----	10 982	11 821	72	2 048	4.91	51	77	27	23 100	47	15.57
1973 ASM----	10 296	9 876	73	1 962	4.72	48	75	25	20 547	50	14.16
1972 Census--	9 607	10 516	73	1 966	4.44	48	75	29	18 910	50	13.17
1971 ASM----	9 180	11 483	70	1 994	4.08	45	71	32	19 315	47	13.74
1970 ASM----	8 431	10 605	73	2 032	3.76	46	71	31	18 672	45	12.54
1969 ASM----	8 075	8 934	72	2 044	3.51	49	77	31	14 637	55	9.81
1968 ASM----	7 635	8 381	73	2 037	3.34	51	78	29	14 676	52	9.78
1967 Census--	7 265	8 103	75	2 057	3.17	48	74	29	14 454	50	9.26
1966 ASM----	6 949	(NA)	74	2 071	3.00	51	78	(NA)	12 994	53	8.44
1965 ASM----	6 649	(NA)	74	2 064	2.91	51	79	(NA)	11 970	55	7.80
1964 ASM----	6 534	8 276	74	2 067	2.86	51	80	36	11 123	58	7.26
1963 Census--	6 205	7 981	72	2 040	2.78	53	81	36	10 268	60	6.91
INDUSTRY 3444, SHEET METAL WORK											
1977 Census--	12 662	(NA)	73	1 930	5.81	57	77	(NA)	27 065	46	19.14
1976 ASM----	11 945	12 445	72	1 897	5.63	57	78	21	25 558	46	18.62
1975 ASM----	11 288	10 830	72	1 896	5.29	55	77	21	22 408	50	16.27
1974 ASM----	10 497	9 133	75	1 939	4.87	54	76	19	23 136	45	15.84
1973 ASM----	9 623	7 450	76	1 918	4.42	51	75	18	19 714	48	13.35
1972 Census--	9 168	7 959	74	1 954	4.18	52	77	21	17 566	52	12.00
1971 ASM----	8 572	7 465	73	1 995	3.90	49	76	23	15 827	54	10.74
1970 ASM----	8 418	7 344	75	1 991	3.72	48	75	23	16 004	52	10.66
1969 ASM----	8 001	6 858	77	1 992	3.54	49	77	23	14 277	56	9.26
1968 ASM----	7 540	7 086	76	1 982	3.34	50	78	25	13 719	54	8.99
1967 Census--	7 205	6 706	77	2 000	3.17	51	78	25	13 058	55	8.40
1966 ASM----	6 979	(NA)	78	2 047	3.02	51	79	(NA)	12 282	56	7.65
1965 ASM----	6 459	(NA)	78	2 096	2.75	53	80	(NA)	11 347	56	6.91
1964 ASM----	6 284	5 534	77	2 078	2.75	50	79	25	11 020	57	6.84
1963 Census--	6 050	5 299	77	2 022	2.72	51	80	25	10 249	59	6.51

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3446, ARCHITECTURAL METAL WORK											
1977 Census--	11 906	(NA)	72	1 945	5.18	47	73	(NA)	24 292	49	17.21
1976 ASM----	10 539	9 256	74	1 898	4.81	45	73	24	20 915	50	14.81
1975 ASM----	9 706	8 577	75	1 834	4.54	46	73	23	19 200	50	13.93
1974 ASM----	9 144	7 483	78	1 857	4.22	48	75	22	18 008	50	12.41
1973 ASM----	8 867	9 114	75	1 918	3.94	42	68	27	19 422	45	13.44
1972 Census--	8 392	(S)	74	1 891	3.68	46	77	(S)	14 918	56	10.56
1971 ASM----	7 745	6 853	76	1 897	3.43	44	74	26	14 604	53	10.01
1970 ASM----	7 262	6 160	79	1 950	3.13	47	77	25	12 349	58	8.00
1969 ASM----	6 787	5 729	80	1 838	3.01	47	75	24	12 753	53	8.59
1968 ASM----	6 583	5 578	80	1 838	2.88	51	78	22	12 135	54	8.17
1967 Census--	6 373	5 259	79	1 915	2.76	52	77	20	12 046	52	7.88
1966 ASM----	6 154	(NA)	78	2 028	2.73	44	76	(NA)	10 965	56	6.85
1965 ASM----	5 899	(NA)	77	2 122	2.50	46	78	(NA)	10 195	57	6.19
1964 ASM----	5 837	(NA)	79	1 991	2.61	46	76	21	10 547	55	6.64
1963 Census--	5 576	3 782	80	1 936	2.50	44	76	21	9 538	58	6.14
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS											
1977 Census--	12 769	(NA)	69	1 989	5.54	61	78	(NA)	30 613	41	22.00
1976 ASM----	11 653	17 180	68	1 922	5.11	60	76	23	28 533	40	21.61
1975 ASM----	10 951	17 379	64	1 914	4.87	58	76	28	24 400	44	19.65
1974 ASM----	10 130	12 005	72	2 007	4.49	58	75	19	26 494	38	18.25
1973 ASM----	9 398	10 429	73	2 141	3.91	55	73	19	24 809	37	15.73
1972 Census--	8 752	11 696	71	1 966	3.92	55	73	24	22 072	39	15.76
INDUSTRY 3449, MISCELLANEOUS METAL WORK											
1977 Census--	13 011	(NA)	62	1 973	5.73	67	83	(NA)	26 879	48	21.66
1976 ASM----	12 010	15 670	66	1 925	5.32	65	81	21	25 730	46	20.09
1975 ASM----	11 239	13 760	64	1 918	4.87	62	78	19	25 712	43	20.65
1974 ASM----	10 247	10 866	66	1 971	4.53	65	79	14	26 942	38	20.50
1973 ASM----	9 665	10 834	66	1 949	4.30	61	78	18	21 975	43	16.82
1972 Census--	9 169	10 784	67	1 954	3.99	63	81	21	18 574	49	14.14

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3441, FABRICATED STRUCTURAL METAL														
United States	-	**2 462**	**1 074**	**99.3**	**1 313.6**	**72.8**	**144.2**	**836.9**	**2 559.8**	**3 018.0**	**5 505.2**	**144.1**	**104.3**	**1 730.7**
New England Division:														
Maine	-	8	5	0.4	4.9	0.3	0.6	3.0	9.9	9.4	19.3	0.4	0.5	9.1
New Hampshire	-	7	3	0.3	2.6	0.2	0.4	2.0	5.0	7.5	13.0	(D)	AA	(D)
Massachusetts	E1	57	17	1.1	15.8	0.8	1.6	9.9	27.4	33.0	60.1	1.4	2.7	48.8
Rhode Island	-	6	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	6.0
Connecticut	E1	34	11	0.8	12.4	0.6	1.3	7.4	20.1	17.0	37.0	1.0	0.9	17.5
Middle Atlantic Division:														
New York	E1	178	45	4.0	56.6	2.9	5.7	34.7	115.8	98.7	209.6	4.3	5.5	112.2
New Jersey	E1	92	29	2.0	27.4	1.3	2.6	15.9	48.0	57.7	105.0	3.0	3.0	56.6
Pennsylvania	-	182	82	8.9	120.7	6.4	11.8	78.8	225.3	283.7	499.9	7.4	10.7	164.3
East North Central Division:														
Ohio	-	136	62	4.2	54.8	3.0	5.7	32.9	106.2	122.8	227.5	6.0	5.4	86.9
Indiana	-	55	31	3.0	42.1	2.1	4.1	26.6	88.4	102.3	175.0	3.7	4.0	51.5
Illinois	E1	144	53	4.5	60.7	3.3	6.4	40.4	121.8	132.8	254.4	4.7	5.2	112.9
Michigan	E1	102	39	2.5	37.1	1.8	3.6	23.0	70.1	75.7	143.4	7.0	3.1	57.6
Wisconsin	-	53	25	2.3	33.5	1.6	3.2	20.3	69.6	82.9	144.5	3.6	2.2	41.3
West North Central Division:														
Minnesota	E1	42	23	1.9	26.7	1.4	2.8	17.1	54.1	85.2	135.2	1.9	2.1	33.7
Iowa	-	30	16	1.4	17.0	1.0	1.9	10.3	35.9	64.3	90.2	3.2	1.9	24.1
Missouri	-	52	23	2.3	33.4	1.6	3.3	19.0	68.4	76.9	144.9	1.7	2.3	41.6
North Dakota	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Dakota	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Nebraska	-	12	7	1.3	15.4	0.9	1.7	7.6	30.6	41.6	71.4	0.7	1.1	18.6
Kansas	-	37	19	1.2	14.5	0.9	1.8	9.1	33.2	40.1	68.7	1.4	1.3	22.3
South Atlantic Division:														
Delaware	-	7	4	0.3	3.5	0.2	0.4	2.6	5.8	6.4	12.1	0.4	(NA)	(NA)
Maryland	-	40	16	1.3	17.4	0.9	1.7	9.6	31.1	33.2	64.3	2.2	1.8	26.1
Virginia	-	47	24	2.5	30.5	1.8	3.7	18.2	58.0	79.1	131.6	2.1	3.1	53.7
West Virginia	-	18	11	0.8	8.5	0.6	1.1	5.6	19.0	27.9	48.4	1.4	0.7	12.3
North Carolina	-	43	24	2.3	27.4	1.6	3.2	15.7	46.3	84.9	132.0	4.1	2.9	51.6
South Carolina	-	35	16	2.2	24.2	1.5	3.0	15.2	51.9	82.0	134.3	4.1	2.3	22.4
Georgia	-	48	22	1.4	17.2	1.1	2.2	11.2	39.3	61.1	99.1	2.3	1.4	20.9
Florida	-	84	34	2.2	28.2	1.6	3.2	16.1	46.2	71.4	119.6	1.9	2.3	30.7
East South Central Division:														
Kentucky	-	24	8	0.6	7.4	0.5	1.0	5.2	13.7	17.3	31.4	1.4	BB	(D)
Tennessee	-	72	30	2.6	31.3	2.0	3.7	20.6	65.7	84.1	146.9	3.3	1.9	26.4
Alabama	-	71	36	3.6	40.4	2.8	5.9	28.2	97.0	114.0	207.6	4.9	2.8	39.4
Mississippi	E1	27	16	0.9	9.2	0.7	1.3	6.3	20.2	28.6	48.0	(D)	EE	(D)
West South Central Division:														
Arkansas	E2	17	4	0.3	3.0	0.2	0.4	1.9	6.6	7.3	13.8	0.2	1.3	28.0
Louisiana	-	58	28	4.4	61.2	3.6	8.2	46.1	140.4	131.4	272.1	10.5	2.9	59.5
Oklahoma	-	49	25	3.2	37.8	2.2	4.0	22.2	68.4	83.7	150.7	4.0	3.4	45.1
Texas	-	176	104	9.9	119.5	7.4	15.8	77.4	229.4	286.2	513.5	18.2	8.1	102.8
Mountain Division:														
Colorado	E2	28	13	0.8	11.8	0.6	1.2	7.6	22.8	21.7	46.1	2.2	1.2	18.5
New Mexico	-	6	4	0.4	5.0	0.3	0.5	3.0	6.9	9.6	16.8	0.7	0.4	4.9
Arizona	-	15	5	0.4	4.8	0.3	0.6	3.5	8.5	10.5	21.0	1.7	1.2	24.2
Utah	E1	31	18	1.5	18.2	1.2	2.3	12.9	30.9	39.4	69.9	2.4	1.1	24.7
Pacific Division:														
Washington	-	55	30	2.2	39.7	1.7	3.3	27.6	76.3	55.8	134.2	3.1	1.8	33.8
Oregon	-	45	15	1.0	15.5	0.8	1.5	10.7	28.2	31.7	59.6	2.2	0.7	12.3
California	-	208	75	6.1	95.7	4.3	8.2	58.9	186.8	172.1	350.6	13.3	8.2	147.3
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM														
United States	-	**1 672**	**644**	**65.8**	**671.3**	**50.1**	**97.0**	**425.0**	**1 418.3**	**1 751.5**	**3 135.6**	**70.7**	**70.7**	**1 003.7**
New England Division:														
Massachusetts	E2	53	21	1.3	12.9	1.0	1.8	8.2	27.6	30.2	57.8	2.8	1.3	18.2
Rhode Island	E1	13	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	4.1
Connecticut	-	19	8	0.4	4.7	0.3	0.5	2.7	11.6	11.7	23.4	0.4	EE	(D)
Middle Atlantic Division:														
New York	E1	137	52	4.5	48.4	3.3	6.6	32.0	81.7	90.2	172.9	2.9	FF	(D)
New Jersey	E1	70	24	1.7	17.1	1.3	2.5	10.8	35.3	41.5	76.5	1.4	EE	(D)
Pennsylvania	-	96	36	4.1	42.3	3.1	5.9	27.0	83.5	98.1	179.5	3.8	FF	(D)
East North Central Division:														
Ohio	-	74	33	4.4	50.5	3.3	6.2	33.0	111.6	127.0	235.1	5.1	6.5	117.2
Indiana	-	39	20	1.9	19.8	1.3	2.4	11.0	41.3	56.8	96.3	2.0	2.6	30.6
Illinois	E1	75	35	2.1	24.9	1.5	3.1	13.7	50.7	71.2	118.0	1.9	3.4	49.3
Michigan	-	87	30	3.3	37.9	2.5	4.8	22.4	76.5	104.5	179.7	3.8	4.6	77.3
Wisconsin	-	30	12	1.0	10.6	0.8	1.6	7.1	20.7	29.6	49.6	1.1	0.7	9.3
West North Central Division:														
Minnesota	-	23	9	0.9	10.2	0.6	1.1	5.6	17.5	17.1	34.1	0.9	0.8	12.5
Iowa	-	14	9	1.5	13.7	1.3	2.4	10.3	27.6	34.6	61.4	3.7	0.8	9.7
Missouri	-	39	18	1.5	14.3	1.2	2.2	9.2	32.0	42.3	73.0	1.4	1.3	17.3
Nebraska	E1	10	4	0.4	3.8	0.2	0.5	1.8	7.1	7.5	14.5	(D)	BB	(D)
Kansas	-	30	14	1.1	9.8	0.9	1.7	7.0	16.9	23.8	40.6	0.7	1.0	11.2

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM—Con.														
South Atlantic Division:														
Maryland	E1	21	5	0.5	6.0	0.4	0.7	3.4	10.1	7.6	17.5	0.4	0.6	9.0
Virginia	–	19	11	1.5	14.0	1.1	2.1	8.1	31.7	36.3	66.7	1.6	1.4	19.1
North Carolina	–	22	11	1.3	12.5	1.0	2.1	7.9	28.6	41.8	69.9	0.9	0.7	10.5
South Carolina	–	16	1	0.2	1.9	0.2	0.4	1.3	4.0	7.9	12.0	0.1	AA	(D)
Georgia	–	43	22	2.6	22.5	1.9	3.5	13.7	53.4	84.5	135.2	3.1	3.2	37.5
Florida	E1	103	43	3.9	35.8	3.0	5.9	22.7	73.3	96.3	169.5	3.7	5.7	72.6
East South Central Division:														
Kentucky	E1	17	10	1.2	8.5	1.0	1.6	5.5	20.5	22.0	42.7	3.1	EE	(D)
Tennessee	–	37	15	2.1	20.6	1.6	2.8	13.4	46.2	61.0	105.9	2.3	1.3	14.4
Alabama	E2	37	11	1.2	12.0	0.9	1.7	7.0	25.6	29.7	54.3	2.0	CC	(D)
Mississippi	–	10	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Arkansas	–	15	5	1.4	13.9	1.2	2.4	11.3	26.1	35.2	61.2	0.7	EE	(D)
Louisiana	E4	16	3	0.3	2.7	0.2	0.4	1.7	5.2	5.8	10.7	0.3	0.4	6.0
Oklahoma	–	23	8	1.3	15.3	0.8	1.7	9.7	34.9	27.1	61.4	0.6	EE	(D)
Texas	–	105	36	4.9	43.6	4.0	8.4	29.3	93.0	125.3	216.5	3.6	FF	(D)
Mountain Division:														
Idaho	–	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Colorado	E1	21	6	0.4	3.8	0.3	0.6	2.5	8.6	12.5	20.0	(D)	0.2	2.7
Arizona	E5	16	4	0.2	2.5	0.2	0.3	1.5	4.9	5.1	10.1	0.4	(NA)	(NA)
Utah	–	6	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
Washington	–	39	11	1.1	13.9	0.9	1.6	8.3	29.1	33.9	62.1	1.2	0.8	13.7
Oregon	–	30	12	1.1	10.9	0.8	1.6	7.0	29.9	40.7	69.5	1.0	0.7	8.4
California	–	214	82	8.1	89.1	6.2	12.6	55.8	198.8	240.3	432.7	8.8	7.2	110.7
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)														
United States	–	**1 864**	**944**	**123.5**	**1 777.8**	**87.7**	**171.6**	**1 125.8**	**4 075.3**	**3 395.3**	**7 432.4**	**179.8**	**93.0**	**1 758.7**
New England Division:														
New Hampshire	–	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Massachusetts	–	54	27	2.0	28.4	1.4	2.8	17.2	52.0	41.8	92.5	2.8	1.0	18.2
Rhode Island	–	8	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Connecticut	E1	26	11	0.9	11.7	0.6	1.2	7.2	22.1	38.0	58.9	0.7	1.4	21.2
Middle Atlantic Division:														
New York	–	101	37	5.8	86.6	4.0	7.6	53.1	211.4	131.8	311.4	7.2	5.5	114.0
New Jersey	–	88	36	4.3	71.6	2.6	5.3	33.5	130.4	119.0	247.3	6.8	2.5	49.7
Pennsylvania	–	146	86	11.6	168.6	7.9	15.7	104.7	392.1	319.5	681.1	17.8	11.5	205.8
East North Central Division:														
Ohio	–	117	63	10.8	150.5	7.9	15.1	101.7	358.1	357.5	732.3	15.7	8.9	166.7
Indiana	–	52	24	3.6	55.9	2.5	5.0	35.0	122.5	128.2	248.6	4.5	3.1	65.6
Illinois	E1	88	57	4.4	61.1	3.1	6.0	38.3	140.0	104.6	243.1	4.4	3.7	78.0
Michigan	E1	83	43	3.1	51.1	2.4	4.7	35.7	89.9	62.8	152.2	3.3	2.4	38.7
Wisconsin	E1	60	35	3.8	51.6	2.7	5.2	35.5	99.0	88.3	182.7	4.3	4.2	66.8
West North Central Division:														
Minnesota	–	35	16	2.2	32.3	1.5	2.7	18.7	67.7	66.6	128.2	3.0	1.1	21.1
Iowa	E1	23	8	0.9	12.3	0.7	1.3	8.2	20.0	22.3	44.7	1.4	1.2	26.0
Missouri	–	45	22	4.8	70.3	3.9	7.4	52.5	118.1	133.4	254.5	6.6	3.4	69.3
South Dakota	–	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	–	26	14	1.9	25.2	1.3	2.4	14.8	53.0	57.2	113.0	1.8	1.1	14.7
South Atlantic Division:														
Delaware	–	5	3	0.2	3.3	0.1	0.2	1.4	9.7	7.8	17.0	0.3	0.2	5.6
Maryland	E1	21	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	6.9
District of Columbia	–	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	–	19	14	2.7	37.7	1.7	3.6	21.7	55.8	72.5	132.8	1.9	1.5	43.9
West Virginia	–	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	–	25	12	3.8	57.1	2.7	5.5	34.2	400.3	207.3	612.1	7.0	1.6	29.7
South Carolina	E3	14	9	0.5	6.0	0.3	0.7	3.9	7.3	9.6	16.7	0.8	AA	(D)
Georgia	–	25	19	2.8	31.9	2.3	4.3	24.8	76.7	50.5	127.2	2.7	1.7	39.1
Florida	–	41	18	2.9	40.5	1.8	3.7	21.9	148.5	65.8	190.2	7.9	1.9	58.0
East South Central Division:														
Kentucky	–	23	10	0.9	12.7	0.6	1.2	8.1	24.1	21.5	45.6	1.1	0.6	10.8
Tennessee	–	30	20	6.8	100.5	5.2	9.7	71.0	158.2	176.9	330.2	6.7	6.9	122.8
Alabama	–	41	27	3.4	45.0	2.4	4.8	29.3	121.0	74.5	199.7	5.9	1.6	30.1
Mississippi	–	10	6	1.7	21.7	1.5	2.8	18.2	73.4	38.4	114.6	(D)	1.7	47.5
West South Central Division:														
Arkansas	E1	16	9	0.7	7.9	0.6	1.2	6.1	16.0	21.2	36.0	0.8	CC	(D)
Louisiana	–	17	10	3.0	33.9	2.2	4.3	23.3	58.1	57.2	114.3	1.1	EE	(D)
Oklahoma	–	80	49	5.6	79.4	4.5	9.2	56.3	187.9	199.3	390.8	8.2	4.1	72.5
Texas	–	185	106	11.0	150.7	8.3	16.6	102.4	338.3	313.5	661.8	24.2	8.0	127.7
Mountain Division:														
Colorado	–	16	8	0.7	8.8	0.5	1.2	5.6	15.4	15.2	30.0	2.9	CC	(D)
Arizona	E1	13	7	1.2	15.6	0.8	1.5	10.2	22.2	29.0	50.6	(D)	0.3	3.4
Utah	–	15	10	0.8	11.3	0.6	1.0	6.7	32.8	23.9	55.7	0.8	0.6	17.5
Pacific Division:														
Washington	E1	37	12	1.6	27.1	1.0	2.1	14.9	43.6	30.8	72.7	5.8	CC	(D)
Oregon	E1	28	10	0.9	13.4	0.7	1.4	9.3	25.4	27.2	52.0	1.2	0.5	11.2
California	E1	199	82	9.6	158.6	5.1	10.2	73.0	310.3	216.4	551.1	11.5	5.0	92.8

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3444, SHEET METAL WORK													
United States	-	**3 430**	**1 008**	**77.4**	**980.2**	**56.7**	**109.5**	**636.6**	**2 095.2**	**2 805.9**	**4 863.5**	**110.6**	**74.0**	**1 299.9**
New England Division:													
Maine	-	17	1	0.2	2.7	0.2	0.3	1.4	8.1	5.5	13.5	0.2	0.2	2.8
Massachusetts	E1	137	35	2.1	27.1	1.6	3.2	18.0	39.9	45.6	85.9	2.5	2.6	41.6
Rhode Island	E5	26	4	0.3	3.8	0.2	0.4	2.3	7.4	9.0	16.5	0.4	0.2	4.2
Connecticut	E2	56	15	0.9	11.1	0.6	1.2	6.9	26.1	22.8	44.1	0.9	0.9	12.4
Middle Atlantic Division:													
New York	E1	244	69	5.1	69.0	3.8	7.3	45.1	126.1	105.6	232.2	5.3	6.0	92.3
New Jersey	E1	171	39	3.1	40.2	2.3	4.5	27.0	74.9	115.0	189.7	3.6	3.9	71.8
Pennsylvania	-	198	65	5.4	68.5	3.8	7.3	42.0	145.1	281.7	416.9	5.4	4.8	74.8
East North Central Division:													
Ohio	-	163	63	8.4	105.3	6.0	11.5	73.8	248.7	433.3	676.5	10.9	6.8	129.2
Indiana	-	91	41	2.7	35.9	2.1	4.0	24.6	78.5	118.0	195.2	4.5	2.3	43.1
Illinois	-	169	64	4.8	60.8	3.3	6.2	36.0	144.1	163.7	305.4	5.6	4.3	77.4
Michigan	E1	152	41	3.4	51.6	2.5	4.9	32.3	114.7	145.2	255.8	11.0	4.1	85.7
Wisconsin	-	76	26	2.5	35.6	1.7	3.4	22.2	66.6	104.1	168.9	4.2	2.6	55.8
West North Central Division:													
Minnesota	E1	77	24	2.0	22.7	1.5	2.8	16.3	52.6	49.5	100.4	4.0	1.2	23.0
Iowa	-	26	10	1.0	10.0	0.8	1.4	6.6	29.7	33.4	63.3	1.3	1.6	27.9
Missouri	-	67	19	2.4	31.2	1.7	3.3	19.9	90.7	92.7	181.3	3.7	1.6	30.2
South Dakota	-	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Nebraska	-	16	8	0.9	11.8	0.7	1.4	7.1	32.9	50.4	83.4	1.1	0.9	16.7
Kansas	-	29	12	0.8	9.3	0.6	1.1	6.5	25.2	32.9	55.7	3.3	0.6	13.2
South Atlantic Division:													
Delaware	-	6	2	0.2	2.9	0.2	0.3	2.0	2.7	3.5	6.5	0.1	AA	(D)
Maryland	E1	40	16	1.5	17.0	1.1	2.2	11.9	38.2	40.6	78.7	3.8	1.5	26.0
District of Columbia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Virginia	-	40	13	0.7	9.2	0.6	1.2	6.7	16.5	12.5	28.7	0.6	CC	(D)
West Virginia	-	19	9	0.8	10.7	0.6	1.0	7.5	29.7	56.1	86.2	0.6	CC	(D)
North Carolina	E1	72	24	2.3	25.2	1.6	3.3	14.5	53.0	59.0	111.3	1.5	1.8	23.5
South Carolina	E1	33	8	0.5	5.4	0.4	0.7	3.5	9.4	10.9	20.1	0.5	0.2	4.7
Georgia	E1	83	26	1.3	14.1	0.9	1.7	8.4	32.4	51.8	84.1	1.7	1.2	20.8
Florida	E1	142	32	1.9	21.1	1.3	2.4	12.7	42.5	59.8	100.5	1.7	3.4	51.6
East South Central Division:													
Kentucky	-	29	9	0.7	9.0	0.5	1.0	6.7	20.5	38.1	57.9	0.4	0.4	9.6
Tennessee	-	60	18	1.0	12.0	0.7	1.4	7.2	22.6	42.9	67.8	2.4	1.2	18.1
Alabama	E1	47	12	1.0	11.8	0.8	1.5	7.6	23.6	35.9	59.0	1.5	1.1	21.9
Mississippi	E1	24	5	0.4	4.4	0.3	0.6	2.6	7.9	14.9	23.0	(D)	0.3	3.9
West South Central Division:													
Arkansas	E1	30	7	0.6	6.3	0.4	0.8	4.2	16.9	13.7	30.9	0.8	0.5	6.1
Louisiana	E2	41	9	0.5	6.7	0.4	0.8	4.1	14.0	20.6	34.0	1.0	0.6	10.8
Oklahoma	E1	48	14	0.6	7.1	0.4	0.8	4.6	14.0	16.0	29.9	0.8	0.4	6.1
Texas	E1	235	59	4.4	48.4	3.2	6.1	31.1	93.9	130.1	222.5	4.6	3.9	65.0
Mountain Division:													
Colorado	-	31	11	0.7	8.8	0.5	1.0	5.0	14.9	18.6	33.1	0.7	CC	(D)
Arizona	E2	54	13	0.8	8.7	0.6	1.4	5.7	17.2	19.5	36.7	0.8	0.7	10.9
Pacific Division:													
Washington	E1	62	15	1.1	15.9	0.8	1.6	10.6	36.9	51.1	87.0	2.3	0.8	15.3
Oregon	-	60	11	0.8	11.7	0.6	1.1	7.9	24.0	25.9	49.5	1.2	0.8	14.6
California	E1	474	143	8.6	110.7	6.4	12.5	72.9	219.6	237.0	456.7	14.6	6.7	125.8
INDUSTRY 3446, ARCHITECTURAL METAL WORK													
United States	E1	**1 511**	**225**	**20.8**	**247.7**	**15.1**	**29.4**	**152.3**	**505.5**	**450.8**	**947.1**	**22.2**	**20.9**	**311.8**
New England Division:													
Massachusetts	E2	38	2	0.2	2.5	0.2	0.3	1.8	3.7	2.9	6.6	(D)	BB	(D)
Connecticut	-	18	3	0.6	7.0	0.4	0.7	4.5	13.3	13.0	27.7	0.4	0.8	13.3
Middle Atlantic Division:													
New York	E2	137	15	1.2	15.4	0.8	1.6	9.4	27.9	23.8	51.6	1.1	2.1	32.1
New Jersey	E1	66	7	0.6	6.8	0.4	0.7	3.9	15.0	11.0	25.8	(D)	0.7	10.7
Pennsylvania	-	123	30	2.5	31.5	1.9	3.6	20.5	56.6	53.6	110.0	1.4	2.5	35.7
East North Central Division:													
Ohio	-	63	21	1.9	24.7	1.4	2.7	15.5	52.2	62.3	115.3	0.9	2.1	26.4
Indiana	-	22	6	0.4	5.9	0.3	0.5	2.9	13.2	12.3	25.0	1.3	BB	(D)
Illinois	-	60	13	1.2	16.1	0.8	1.6	9.0	47.2	38.9	78.8	1.8	1.2	20.4
Michigan	-	39	11	1.7	22.7	1.2	2.3	14.7	45.1	37.7	81.7	1.7	1.0	20.1
Wisconsin	E2	23	1	0.2	2.3	0.1	0.2	1.0	3.2	2.8	6.0	(D)	BB	(D)
West North Central Division:													
Minnesota	E2	30	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Iowa	-	13	2	0.2	1.9	0.1	0.2	1.0	3.3	2.8	5.9	0.2	(NA)	(NA)
Missouri	E1	26	2	0.2	2.6	0.1	0.3	1.7	5.1	2.9	7.9	0.1	AA	(D)
Kansas	E2	19	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	5.4
South Atlantic Division:													
Maryland	-	28	8	0.5	6.0	0.4	0.7	3.7	11.0	7.3	18.2	0.2	CC	(D)
Virginia	E2	21	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	E1	21	4	0.4	2.7	0.3	0.6	1.8	5.1	3.6	8.5	0.4	AA	(D)
South Carolina	-	17	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	4.1
Georgia	E1	35	5	0.4	3.9	0.3	0.6	2.4	9.2	8.2	17.1	0.2	0.5	6.9
Florida	E1	73	5	1.2	10.1	1.0	2.0	7.2	22.0	8.9	31.0	0.5	0.8	9.3

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3446, ARCHITECTURAL METAL WORK—Con.														
East South Central Division:														
Kentucky	–	19	4	0.3	3.4	0.2	0.4	2.4	4.3	8.9	13.1	0.3	AA	(D)
Tennessee	–	30	8	0.5	6.0	0.4	0.7	3.4	13.1	13.4	25.9	0.8	0.6	8.2
Alabama	E1	28	4	0.5	4.8	0.4	0.7	3.3	9.5	9.2	18.6	(D)	0.4	6.5
West South Central Division:														
Louisiana	E2	25	2	0.2	1.8	0.1	0.2	1.0	3.6	2.1	5.8	0.1	(NA)	(NA)
Oklahoma	E2	17	6	0.4	3.4	0.3	0.6	2.5	5.8	7.0	12.8	0.4	(NA)	(NA)
Texas	E1	123	12	1.7	16.4	1.3	2.6	10.6	33.7	30.9	64.7	1.3	1.0	12.2
Mountain Division:														
Arizona	E1	30	2	0.3	3.7	0.3	0.5	2.6	8.3	4.8	13.2	(D)	0.2	2.0
Pacific Division:														
California	E1	206	27	2.0	25.8	1.4	2.6	14.0	55.2	48.5	102.9	1.4	EE	(D)
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS														
United States	–	**466**	**199**	**22.7**	**289.7**	**15.9**	**31.6**	**174.9**	**694.5**	**1 100.6**	**1 779.2**	**32.2**	**12.5**	**275.9**
New England Division:														
Massachusetts	–	7	6	0.4	4.5	0.2	0.4	2.9	10.4	9.7	20.0	0.7	(NA)	(NA)
Middle Atlantic Division:														
New York	–	9	3	0.3	4.0	0.3	0.5	2.7	12.3	23.4	33.4	(D)	(NA)	(NA)
New Jersey	E1	11	8	0.7	8.2	0.5	1.0	5.7	17.8	27.9	44.7	2.9	BB	(D)
Pennsylvania	–	16	7	0.8	9.4	0.6	1.2	6.1	20.9	32.5	53.2	0.5	BB	(D)
East North Central Division:														
Ohio	–	16	9	1.0	16.4	0.8	1.6	10.8	43.7	64.5	107.5	0.7	1.1	24.3
Indiana	–	14	5	0.8	11.6	0.6	1.2	8.4	23.1	37.4	60.7	0.7	EE	(D)
Illinois	–	26	16	2.8	36.9	2.1	4.3	25.1	105.4	180.7	279.4	5.5	2.0	54.9
Michigan	E4	16	3	0.2	2.3	0.1	0.2	1.5	4.7	5.3	10.0	0.2	(NA)	(NA)
Wisconsin	–	5	4	0.5	8.9	0.3	0.7	4.3	20.5	42.1	62.9	(D)	BB	(D)
West North Central Division:														
Iowa	–	9	6	0.7	8.3	0.5	0.9	5.0	19.6	29.1	48.2	0.8	(NA)	(NA)
Missouri	–	11	4	0.9	11.7	0.7	1.2	7.6	23.3	39.3	62.7	0.7	CC	(D)
Nebraska	–	7	4	0.6	7.8	0.3	0.6	3.0	11.9	27.7	38.8	0.9	(NA)	(NA)
Kansas	–	12	4	0.6	6.4	0.4	0.8	3.7	14.2	24.9	40.3	0.5	(NA)	(NA)
South Atlantic Division:														
Maryland	–	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Virginia	–	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	–	16	9	0.9	9.9	0.7	1.4	6.7	22.9	45.9	69.2	1.1	(NA)	(NA)
Georgia	–	17	8	0.9	10.1	0.7	1.4	6.7	32.0	45.8	77.5	0.7	0.8	23.7
Florida	E2	26	6	0.5	4.0	0.3	0.6	2.1	10.9	19.2	29.3	0.3	0.3	3.3
East South Central Division:														
Kentucky	E2	6	5	0.3	4.3	0.2	0.5	2.3	8.1	10.5	18.8	0.5	AA	(D)
Tennessee	E1	12	5	0.5	5.6	0.4	0.7	4.2	13.8	19.0	32.6	0.5	0.4	4.9
Alabama	–	13	7	1.0	12.8	0.7	1.4	7.5	33.0	52.5	85.1	0.8	CC	(D)
Mississippi	–	5	4	0.5	5.7	0.4	0.8	3.6	17.1	25.3	42.4	(D)	BB	(D)
West South Central Division:														
Arkansas	E1	10	2	0.3	3.9	0.2	0.4	2.2	9.2	13.8	22.7	0.2	(NA)	(NA)
Louisiana	E1	12	4	0.2	2.9	0.2	0.4	2.1	6.0	9.9	15.8	0.4	BB	(D)
Oklahoma	E2	14	3	0.6	7.9	0.2	0.5	2.6	12.6	15.4	27.7	(D)	CC	(D)
Texas	E1	63	25	2.9	36.9	2.0	3.8	20.3	88.9	137.2	225.5	3.4	CC	(D)
Mountain Division:														
Colorado	–	9	2	0.2	2.7	0.2	0.4	1.7	8.4	12.8	21.3	(D)	(NA)	(NA)
Arizona	–	4	3	0.2	2.6	0.2	0.3	1.9	5.8	11.1	15.4	0.1	(NA)	(NA)
Pacific Division:														
Washington	E1	10	3	0.2	2.6	0.1	0.2	1.3	4.1	6.2	10.1	0.1	(NA)	(NA)
California	–	44	18	1.6	23.0	1.0	2.1	12.0	51.9	67.4	119.1	1.6	EE	(D)
INDUSTRY 3449, MISCELLANEOUS METAL WORK														
United States	–	**412**	**185**	**16.3**	**211.5**	**10.2**	**20.2**	**115.7**	**436.9**	**893.6**	**1 330.8**	**20.5**	**19.5**	**362.2**
New England Division:														
Maine	–	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Hampshire	–	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Connecticut	–	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	–	14	6	0.4	6.9	0.2	0.6	2.5	13.4	21.5	34.5	(D)	0.6	11.7
New Jersey	E3	15	5	0.3	2.9	0.2	0.3	2.0	4.4	14.8	19.7	(D)	0.6	12.7
Pennsylvania	–	21	11	0.9	12.8	0.5	1.0	6.0	27.9	52.2	78.3	1.0	1.3	22.9
East North Central Division:														
Ohio	–	27	13	1.2	17.0	0.8	1.6	9.5	48.6	59.1	107.0	1.5	1.5	25.9
Indiana	–	8	3	0.5	7.2	0.3	0.5	3.7	12.8	29.2	41.9	0.4	0.4	5.1
Illinois	–	14	7	0.6	9.6	0.4	0.8	5.8	30.5	35.5	66.2	0.6	1.4	37.9
Michigan	E1	16	2	0.2	3.3	0.2	0.3	1.8	7.2	16.6	24.1	0.1	0.3	4.3

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3449, MISCELLANEOUS METAL WORK—Con.														
West North Central Division:														
Minnesota	-	10	3	0.5	7.1	0.4	0.7	4.3	13.0	31.0	44.7	0.2	0.5	12.5
Iowa	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Missouri	-	8	5	0.6	8.5	0.4	0.7	4.4	15.8	18.1	36.1	0.5	CC	(D)
Nebraska	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	9.1
Kansas	-	8	5	0.4	3.6	0.2	0.3	1.7	6.5	14.5	20.7	0.1	AA	(D)
South Atlantic Division:														
Maryland	E1	8	6	0.4	4.9	0.2	0.4	2.7	10.8	24.8	35.5	(D)	0.4	8.5
Virginia	-	8	7	0.4	5.7	0.3	0.7	3.5	10.5	24.7	35.2	0.3	CC	(D)
North Carolina	E2	9	5	0.2	2.6	0.1	0.2	1.1	6.2	27.7	33.3	(D)	BB	(D)
South Carolina	-	6	4	0.6	8.7	0.5	1.0	6.4	19.1	32.4	51.1	(D)	0.7	11.8
Georgia	-	19	8	0.8	11.0	0.5	1.1	5.8	23.3	47.0	69.8	0.3	0.4	5.9
Florida	-	37	16	0.9	11.1	0.6	1.1	5.5	21.9	73.3	95.6	0.3	1.4	23.4
East South Central Division:														
Tennessee	E1	11	4	0.2	2.0	0.1	0.2	1.1	2.5	17.5	20.6	0.5	0.4	5.7
Alabama	-	10	6	0.6	8.7	0.4	0.8	4.8	16.7	30.4	46.6	(D)	1.0	16.2
West South Central Division:														
Arkansas	-	9	4	0.6	5.1	0.4	0.8	3.3	7.3	22.5	29.8	0.2	BB	(D)
Texas	-	41	20	1.8	23.3	1.1	2.3	12.4	46.9	111.9	160.8	4.7	1.9	35.1
Mountain Division:														
Colorado	-	5	3	0.2	2.0	0.1	0.2	1.1	3.1	11.0	14.2	(Z)	(NA)	(NA)
Pacific Division:														
Oregon	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California	-	41	19	1.3	16.0	0.9	1.8	9.9	30.8	72.6	102.6	2.6	1.9	38.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Fabricated structural metal (SIC 3441)	Metal doors, sash, and trim (SIC 3442)	Fabricated plate work (boiler shops) (SIC 3443)	Sheet metal work (SIC 3444)	Architectural metal work (SIC 3446)	Prefabricated metal buildings (SIC 3448)	Miscellaneous metal work (SIC 3449)
Primary product specialization ratio[1]	percent	92	93	89	92	90	94	81
Coverage ratio[2]	do	92	91	92	90	86	95	78
All establishments	number	2 462	1 672	1 864	3 430	1 511	466	412
With 1 to 19 employees	do	1 388	1 028	920	2 422	1 286	267	227
With 20 to 99 employees	do	854	470	677	861	189	129	145
With 100 employees or more	do	220	174	267	147	36	70	40
All employees, average for year	1,000	99.3	65.8	123.5	77.4	20.8	22.7	16.3
Payroll for year, all employees	mil. dol.	1 313.6	671.3	1 777.8	980.2	247 7	289.7	211.5
Production workers:								
Average for year	1,000	72.8	50.1	87.7	56.7	15.1	15.9	10.2
March	do	72.8	44.0	87.4	53.6	14.6	14.2	9.8
May	do	71.9	48.5	87.5	55.7	14.8	15.5	10.1
August	do	74.0	54.1	87.9	59.2	15.4	17.2	10.7
November	do	72.5	53.6	87.8	58.2	15.3	16.6	10.5
Hours	millions	144.2	97.0	171.6	109.5	29.4	31.6	20.2
January to March	do	35.2	20.2	42.9	24.9	7.3	6.8	4.6
April to June	do	36.0	24.0	43.4	27.2	7.2	7.7	5.1
July to September	do	36.8	26.6	42.0	29.1	7.4	8.9	5.4
October to December	do	36.2	26.2	43.3	28.3	7.4	8.2	5.1
Wages	mil. dol.	836.9	425.0	1 125.8	636.6	152.3	174.9	115.7
Cost of materials, etc.	do	3 018.0	1 751.5	3 395.3	2 808.9	450.8	1 100.6	593.6
Materials, parts, containers, etc., consumed	do	2 351.8	1 559.3	2 929.4	2 443.0	392.3	984.1	722.8
Resales	do	368.0	141.8	219.9	221.3	30.3	65.9	138.1
Fuels consumed	do	20.7	11.8	37.5	19.0	4.1	4.4	5.0
Purchased electric energy	do	32.8	17.1	49.7	23.7	6.8	9.5	13.0
Contract work	do	244.7	21.5	158.7	101.9	17.3	36.7	14.8
Value of shipments, including resales	do	5 505.2	3 135.6	7 432.4	4 863.5	947.1	1 779.2	1 330.8
Value of resales	do	422.4	171.7	249.2	263.9	33.4	76.9	157.2
Value added by manufacture	do	2 559.8	1 418.3	4 075.3	2 095.2	505.5	694.5	436.9
Manufacturers' inventories:								
Beginning of year	do	1 132.6	438.8	1 576.3	771.5	156.7	296.1	204.8
Finished products	do	97.0	111.3	112.7	222.9	37.8	72.7	75.1
Work in process	do	577.5	76.0	893.1	179.5	53.4	52.3	21.1
Materials, supplies, fuel, etc.	do	458.2	251.5	570.5	369.1	65.6	171.1	108.6
End of year	do	1 220.9	519.0	1 566.9	841.9	167.3	304.6	211.8
Finished products	do	103.6	132.5	118.2	239.6	40.7	72.0	76.4
Work in process	do	643.4	89.1	925.7	203.3	59.7	68.8	19.5
Materials, supplies, fuel, etc.	do	473.9	297.4	523.0	398.9	66.9	163.8	115.9
Capital expenditures for plant and equipment	do	156.1	76.0	199.4	122.2	24.1	33.9	23.1
New capital expenditures	do	144.1	70.7	179.8	110.6	22.2	32.2	20.5
New buildings and other structures	do	40.3	18.9	52.6	26.5	6.6	8.8	5.2
New machinery and equipment	do	103.9	51.8	127.3	84.1	15.7	23.4	15.3
Used capital expenditures	do	12.0	5.3	19.6	11.5	1.9	1.7	2.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Fabricated structural metal (SIC 3441)		Metal doors, sash, and trim (SIC 3442)		Fabricated plate work (boiler shops) (SIC 3443)		Sheet metal work (SIC 3444)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	6.4	10	2.1	12	20.1	4	(14.3)	63
Response coverage ratio[2] (percent)	57	(X)	58	(X)	53	(X)	53	(X)
Machinery	20.3	7	8.7	8	145.0	14	(152.7)	78
Response coverage ratio[2] (percent)	55	(X)	60	(X)	58	(X)	53	(X)
Cost of purchased communication services	12.8	8	9.4	8	24.5	5	(24.0)	38
Response coverage ratio[2] (percent)	55	(X)	60	(X)	57	(X)	53	(X)
Rental payments	39.9	8	33.5	6	42.2	8	44.9	11
Buildings and other structures	24.4	10	20.7	7	17.6	10	25.7	11
Machinery and equipment	15.5	10	12.8	9	24.6	10	(19.2)	15
Supplemental labor costs	235.1	2	110.5	2	368.0	1	166.6	3
Legal costs	117.6	2	60.5	3	153.8	2	80.6	3
Voluntary costs	117.5	3	49.9	3	214.2	2	86.0	3
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	438.9	4	172.5	7	651.9	2	240.7	5
New capital expenditures	35.8	10	16.4	11	56.2	7	(29.4)	21
Used capital expenditures	(8.7)	52	0.7	10	4.2	9	(4.4)	26
Retirements	17.8	7	(2.6)	30	(18.8)	39	(7.2)	20
End of year	465.6	4	187.0	6	693.5	2	267.2	6
Machinery and equipment:								
Beginning of year	767.3	3	301.9	4	1,329.0	2	582.0	3
New capital expenditures	106.3	10	56.8	10	126.6	4	113.3	4
Automobiles, trucks, etc., for highway use[3]	(6.3)	(A)	(6.9)	(A)	(7.2)	(A)	(7.9)	(A)
Computers and peripheral data processing equipment[3]	(0.7)	(A)	(6.0)	(A)	(4.1)	(A)	(1.1)	(A)
All other[3]	(78.9)	25	(33.3)	60	(91.1)	22	(80.6)	25
New machinery and equipment, n.s.k.[4]	(20.4)	98	(10.6)	(A)	(24.2)	83	(23.7)	84
Used capital expenditures	(8.9)	22	(4.2)	53	16.4	12	(10.6)	17
Retirements	29.7	6	9.9	7	41.4	5	(28.7)	17
End of year	852.7	2	353.1	4	1,430.5	1	677.1	3
Total gross value of depreciable assets:								
Beginning of year	1,206.1	2	474.4	4	1,980.8	1	822.7	2
New capital expenditures	142.1	8	73.2	8	182.8	5	142.6	14
Used capital expenditures	(17.6)	29	(4.9)	45	20.5	11	(14.9)	18
Retirements	47.5	5	12.4	11	60.2	13	35.7	14
End of year	1,318.3	1	540.1	4	2,123.9	1	944.6	2
Depreciation charges during 1977	86.4	3	39.7	4	137.0	4	75.4	5
Buildings and other structures	20.8	5	8.1	6	27.0	4	12.6	7
Machinery and equipment	65.6	3	31.6	4	110.0	5	62.8	6

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Architectural metal work (SIC 3446)		Fabricated metal buildings (SIC 3448)		Miscellaneous metal work (SIC 3449)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	(0.7)	24	3.4	5	(1.4)	19
Response coverage ratio[2] (percent)	50	(X)	59	(X)	54	(X)
Machinery	2.3	14	22.7	5	(5.6)	15
Response coverage ratio[2] (percent)	50	(X)	53	(X)	54	(X)
Cost of purchased communication services	(3.0)	17	4.7	9	(4.0)	18
Response coverage ratio[2] (percent)	50	(X)	51	(X)	81	(X)
Rental payments	10.6	14	12.8	5	7.8	14
Buildings and other structures	(6.5)	18	3.6	11	(4.5)	19
Machinery and equipment	(4.1)	21	9.2	5	(3.4)	16
Supplemental labor costs	43.7	3	53.8	2	39.8	2
Legal costs	21.1	4	27.3	1	20.1	3
Voluntary costs	22.6	5	26.5	3	19.7	4
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	73.8	9	119.9	3	101.7	6
New capital expenditures	(4.7)	16	8.7	9	(6.6)	18
Used capital expenditures	(0.5)	37	(0.7)	42	0.7	-
Retirements	(1.4)	21	1.6	10	4.4	9
End of year	77.6	9	127.8	3	104.6	6
Machinery and equipment:						
Beginning of year	127.6	6	214.4	3	158.9	5
New capital expenditures	(20.4)	26	23.4	6	17.6	12
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(0.5)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(0.6)	(A)	(D)	(A)
All other[3]	(13.8)	(A)	(17.7)	(A)	(12.7)	(A)
New machinery and equipment, n.s.k.[4]	(4.6)	(A)	(4.6)	(A)	(2.9)	(A)
Used capital expenditures	0.6	5	1.3	8	(2.4)	27
Retirements	(5.5)	16	8.2	3	11.4	6
End of year	143.0	5	230.9	2	167.6	5
Total gross value of depreciable assets:						
Beginning of year	201.4	6	334.3	3	260.6	5
New capital expenditures	(25.1)	21	32.1	6	24.1	12
Used capital expenditures	(1.1)	17	(2.0)	16	(3.2)	21
Retirements	(6.6)	16	9.7	3	15.8	7
End of year	221.0	5	358.7	2	272.2	5
Depreciation charges during 1977	18.7	7	23.5	2	16.2	6
Buildings and other structures	4.4	12	5.1	3	4.1	8
Machinery and equipment	14.3	7	18.4	2	12.1	6

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

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Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3441, FABRICATED STRUCTURAL METAL												
Total	-	**2 462**	**99.3**	**1 313.6**	**72.8**	**144.2**	**836.9**	**2 559.8**	**3 018.0**	**5 505.2**	**144.1**	**1 220.9**
Establishments with an average of—												
1 to 4 employees	E6	489	1.0	12.4	0.9	1.6	8.2	24.9	31.7	61.2	2.3	11.5
5 to 9 employees	E6	423	3.0	38.1	2.2	4.7	24.7	74.9	80.6	154.7	5.6	27.1
10 to 19 employees	E2	476	6.5	84.2	4.8	9.8	54.1	158.6	181.3	337.9	11.5	52.1
20 to 49 employees	-	589	18.6	247.7	13.7	27.1	157.0	478.5	565.5	1 039.2	25.5	167.3
50 to 99 employees	-	265	17.9	237.3	13.1	25.4	148.8	460.9	524.5	983.3	27.0	193.9
100 to 249 employees	-	169	26.1	341.1	19.0	38.2	216.0	655.3	863.0	1 487.9	47.0	315.8
250 to 499 employees	-	42	14.3	185.8	9.8	19.4	112.7	386.2	483.4	837.8	(25.2)	191.3
500 to 999 employees	-	6	4.0	55.9	3.0	5.4	38.4	108.5	99.7	199.9	(D)	94.9
1,000 to 2,499 employees	-	2	(8.0)	(111.1)	(6.3)	(12.7)	(77.0)	(211.9)	(188.4)	(403.4)	(D)	(167.1)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	667	3.2	39.9	2.6	5.1	26.2	77.0	85.0	162.1	7.1	33.4
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM												
Total	-	**1 672**	**65.8**	**671.3**	**50.1**	**97.0**	**425.0**	**1 418.3**	**1 751.5**	**3 135.6**	**70.7**	**519.0**
Establishments with an average of—												
1 to 4 employees	E7	511	0.9	9.2	0.9	1.4	5.9	20.8	24.0	46.3	0.7	7.2
5 to 9 employees	E5	276	1.8	19.5	1.4	2.8	12.2	37.9	47.2	84.3	1.4	13.7
10 to 19 employees	E1	241	3.3	34.1	2.4	4.7	20.6	67.4	82.6	149.0	3.6	23.0
20 to 49 employees	E1	298	9.3	93.5	7.0	13.2	56.3	195.6	237.2	429.1	7.3	69.2
50 to 99 employees	-	172	11.8	119.9	8.9	17.4	73.7	244.8	319.1	558.2	16.2	90.3
100 to 249 employees	-	130	20.2	208.3	15.4	29.1	131.4	446.7	581.4	1 014.9	24.8	160.3
250 to 499 employees	-	32	10.3	100.8	7.6	14.8	61.8	228.3	263.3	482.3	9.0	95.8
500 to 999 employees	-	12	8.2	86.1	6.5	13.6	63.2	176.7	196.7	371.5	7.8	59.4
Covered by administrative records[2]	E0	578	2.0	20.0	1.7	3.0	12.7	40.4	48.5	88.9	1.5	14.6
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)												
Total	-	**1 864**	**123.5**	**1 777.8**	**87.7**	**171.6**	**1 125.8**	**4 075.3**	**3 395.3**	**7 432.4**	**179.8**	**1 566.9**
Establishments with an average of—												
1 to 4 employees	E8	387	0.7	8.8	0.6	0.9	5.7	19.3	17.2	37.1	1.1	7.0
5 to 9 employees	E7	208	1.4	18.3	1.0	2.0	12.2	39.3	37.3	76.3	2.1	14.7
10 to 19 employees	E6	325	4.6	64.4	3.4	6.6	41.6	127.9	109.6	237.5	6.5	41.1
20 to 49 employees	E1	442	14.3	203.0	10.8	21.4	133.3	398.8	366.8	759.8	20.0	124.9
50 to 99 employees	-	235	16.2	219.9	12.1	24.7	145.7	449.7	452.2	894.2	24.0	164.6
100 to 249 employees	-	174	27.1	382.9	19.5	39.5	249.3	781.8	750.7	1 523.3	40.9	349.2
250 to 499 employees	-	53	18.2	250.5	13.1	24.7	162.4	561.9	450.7	1 033.3	28.4	228.1
500 to 999 employees	-	30	21.0	320.4	14.3	27.1	201.6	816.3	533.3	1 334.4	34.0	382.0
1,000 to 2,499 employees	-	8	(20.0)	(309.7)	(12.9)	(24.6)	(174.0)	(880.2)	(677.5)	(1 536.7)	(22.9)	(255.4)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	694	5.3	69.4	4.0	7.5	45.5	143.7	126.8	270.6	7.5	52.5
INDUSTRY 3444, SHEET METAL WORK												
Total	-	**3 430**	**77.4**	**980.2**	**56.7**	**109.5**	**636.6**	**2 095.2**	**2 808.9**	**4 863.5**	**110.6**	**841.9**
Establishments with an average of—												
1 to 4 employees	E7	1 339	2.3	28.9	2.1	3.2	18.6	54.5	74.9	131.8	3.5	21.7
5 to 9 employees	E3	497	3.4	44.6	2.4	4.9	28.8	94.5	104.9	199.2	4.0	29.6
10 to 19 employees	E1	585	8.2	105.0	5.8	11.6	66.3	200.5	239.6	437.6	8.6	61.8
20 to 49 employees	E1	659	20.1	255.8	14.9	29.0	166.3	542.5	652.9	1 185.2	27.7	195.4
50 to 99 employees	-	203	13.9	176.7	10.4	20.2	114.4	377.7	481.4	849.3	19.7	160.6
100 to 249 employees	-	119	17.5	218.8	13.0	25.3	142.4	465.6	639.2	1 092.3	28.1	203.2
250 to 499 employees	-	19	6.0	79.8	4.4	8.4	55.4	183.9	280.7	460.0	13.3	89.0
500 to 999 employees	-	9	6.1	70.6	3.7	6.9	44.6	176.0	335.4	508.1	5.7	80.5
Covered by administrative records[2]	E0	1 255	3.0	36.9	2.5	4.1	23.7	67.2	90.7	157.8	4.2	26.0
INDUSTRY 3446, ARCHITECTURAL METAL WORK												
Total	**E1**	**1 511**	**20.8**	**247.7**	**15.1**	**29.4**	**152.3**	**505.5**	**450.8**	**947.1**	**22.2**	**167.3**
Establishments with an average of—												
1 to 4 employees	E8	923	1.3	16.0	1.3	2.1	10.1	32.9	27.2	61.4	1.5	9.2
5 to 9 employees	E3	181	1.2	14.3	0.9	1.8	9.0	29.0	23.6	52.2	5.6	7.1
10 to 19 employees	E1	182	2.5	29.2	1.8	3.4	17.8	51.6	52.3	103.6	2.1	13.7
20 to 49 employees	-	136	4.1	50.6	2.9	5.7	29.7	99.3	90.4	188.0	4.7	28.9
50 to 99 employees	-	53	3.6	44.8	2.4	4.7	25.8	95.8	79.5	168.7	2.0	38.8
100 to 249 employees	-	24	3.5	40.6	2.4	4.8	24.6	89.8	84.3	172.3	3.6	33.7
250 to 499 employees	-	10	(4.6)	(52.3)	(3.4)	(6.9)	(35.3)	(107.1)	(93.5)	(200.9)	(2.8)	(36.0)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	846	1.4	16.9	1.3	2.2	10.7	35.6	29.6	65.3	1.3	10.1
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS												
Total	-	**466**	**22.7**	**289.7**	**15.9**	**31.6**	**174.9**	**694.5**	**1 100.6**	**1 779.2**	**32.2**	**304.6**
Establishments with an average of—												
1 to 4 employees	E7	149	0.2	2.8	0.2	0.3	1.6	7.5	10.8	18.4	0.3	3.3
5 to 9 employees	E7	52	0.3	3.9	0.2	0.5	2.3	8.3	12.9	21.1	0.3	3.9
10 to 19 employees	E5	66	0.9	10.8	0.7	1.2	6.5	23.2	39.4	62.6	3.5	13.1
20 to 49 employees	E1	77	2.6	30.1	1.9	3.7	18.4	66.9	113.7	178.6	3.1	31.3
50 to 99 employees	-	52	3.4	43.0	2.4	5.0	26.0	101.8	141.4	241.6	5.5	43.2
100 to 249 employees	-	54	8.9	111.2	6.2	12.3	66.2	287.6	488.0	765.4	(19.5)	127.1
250 to 499 employees	-	14	6.3	87.9	4.0	8.6	54.0	199.0	294.4	491.3	(D)	82.7
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	184	1.0	11.6	0.7	1.3	6.8	27.0	41.4	68.4	0.8	12.9

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3449, MISCELLANEOUS METAL WORK												
Total	-	**412**	**16.3**	**211.5**	**10.2**	**20.2**	**115.7**	**436.9**	**893.6**	**1 330.8**	**20.5**	**211.8**
Establishments with an average of—												
1 to 4 employees	E6	88	0.1	1.5	0.1	0.1	0.9	1.4	6.4	10.1	0.1	1.6
5 to 9 employees	E5	53	0.4	4.6	0.2	0.5	2.5	8.9	13.8	22.6	0.3	3.8
10 to 19 employees	E1	86	1.2	15.4	0.8	1.5	8.1	34.7	99.4	136.2	1.9	21.9
20 to 49 employees	-	99	3.1	38.8	2.0	3.8	21.3	82.1	229.5	311.9	4.4	51.7
50 to 99 employees	-	46	3.3	39.7	2.0	4.0	20.9	88.8	195.7	279.7	4.5	44.8
100 to 249 employees	-	31	5.0	65.1	3.1	6.2	36.4	121.0	225.2	346.5	4.2	57.0
250 to 499 employees	-	9	3.2	46.4	2.0	4.0	25.6	99.9	123.7	223.9	5.1	31.0
Covered by administrative records[2]	E0	101	0.5	5.6	0.3	0.6	3.2	10.8	20.0	30.8	0.5	5.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3441	**Fabricated structural metal:**										
	Entire industry	2 462	99.3	1 313.6	72.8	144.2	836.9	2 559.8	3 018.0	5 505.2	144.1
	Establishments with 75 percent specialization or more	2 168	84.3	1 115.4	61.8	122.4	710.9	2 199.7	2 581.9	4 707.9	122.8
34411	Fabricated structural metal for buildings:										
	Establishments with this product class primary	967	55.0	740.1	39.1	77.5	460.7	1 447.4	1 816.9	3 216.3	80.0
	Establishments with 75 percent specialization or more in class	707	36.1	493.0	25.6	50.6	305.0	984.4	1 248.1	2 208.2	56.4
34412	Fabricated structural metal for bridges:										
	Establishments with this product class primary	39	4.0	50.0	3.0	5.9	32.6	85.2	140.4	224.0	6.7
	Establishments with 75 percent specialization or more in class	23	2.1	25.6	1.6	3.2	17.6	47.3	78.4	123.7	3.6
34413	Other fabricated structural metal:										
	Establishments with this product class primary	382	28.7	385.1	21.8	43.1	253.8	747.1	765.9	1 487.5	33.6
	Establishments with 75 percent specialization or more in class	293	20.9	277.8	16.0	32.1	184.0	531.6	553.8	1 082.0	26.0
3442	**Metal doors, sash, and trim:**										
	Entire industry	1 672	65.8	671.3	50.1	97.0	425.0	1 418.3	1 751.5	3 135.6	70.7
	Establishments with 75 percent specialization or more	1 561	56.9	576.9	43.5	84.1	363.3	1 216.2	1 511.5	2 699.2	61.4
34421	Metal doors and frames, except storm doors:										
	Establishments with this product class primary	247	19.5	221.5	14.2	27.5	137.3	477.1	541.6	1 006.2	28.2
	Establishments with 75 percent specialization or more in class	198	12.9	153.2	9.3	17.6	93.1	323.2	358.4	675.9	18.3
34422	Metal window sash and frames, except storm sash:										
	Establishments with this product class primary	238	21.8	204.1	16.8	33.1	128.8	442.4	562.2	991.7	18.1
	Establishments with 75 percent specialization or more in class	129	8.7	81.2	6.8	13.5	51.1	157.4	198.8	353.4	7.4
34423	Metal molding and trim and store fronts:										
	Establishments with this product class primary	43	2.1	24.5	1.4	2.9	14.1	52.0	80.8	130.5	1.2
	Establishments with 75 percent specialization or more in class	23	0.8	9.8	0.6	1.2	6.3	20.0	37.8	56.9	0.8
34424	Metal combination screen and storm sash and doors:										
	Establishments with this product class primary	183	10.4	99.5	8.3	15.7	66.8	190.3	262.4	449.7	8.2
	Establishments with 75 percent specialization or more in class	125	4.9	44.6	4.0	7.4	29.1	92.9	126.6	217.7	3.3
34425	Metal window and door screens and weatherstrip:										
	Establishments with this product class primary	69	4.0	42.9	3.2	6.0	28.3	92.0	119.6	208.4	7.0
	Establishments with 75 percent specialization or more in class	40	1.5	16.2	1.3	2.6	11.3	32.3	56.9	87.8	1.6
3443	**Fabricated plate work (boiler shops):**										
	Entire industry	1 864	123.5	1 777.8	87.7	171.6	1 125.8	4 075.3	3 395.3	7 432.4	179.8
	Establishments with 75 percent specialization or more	1 705	101.7	1 437.3	74.8	146.7	959.9	3 238.5	2 778.1	5 939.3	151.1
34431	Heat exchangers and steam condensers:										
	Establishments with this product class primary	102	13.2	190.2	9.4	18.8	122.8	408.7	353.2	781.6	19.0
	Establishments with 75 percent specialization or more in class	81	9.2	131.0	6.7	13.9	88.4	286.9	268.6	573.0	11.9
34432	Fabricated steel plate, stacks, and weldments:										
	Establishments with this product class primary	271	22.7	340.8	16.4	31.7	218.0	571.3	560.3	1 145.7	33.2
	Establishments with 75 percent specialization or more in class	191	13.2	198.6	10.1	20.0	134.9	349.3	320.2	663.8	23.0
34433	Steel power boilers, parts, and attachments:										
	Establishments with this product class primary	46	18.0	264.1	13.2	25.3	175.9	651.8	486.5	1 057.3	24.8
	Establishments with 75 percent specialization or more in class	33	13.7	198.7	10.9	20.8	147.6	497.6	361.9	810.0	19.2
34434	Gas cylinders:										
	Establishments with this product class primary	19	3.0	37.6	2.4	4.5	28.7	81.0	90.5	171.2	6.0
	Establishments with 75 percent specialization or more in class	14	2.2	28.4	1.8	3.5	22.0	64.5	72.2	135.6	(D)
34435	Complete metal tanks, standard, pressure/:										
	Establishments with this product class primary	58	5.9	74.6	4.4	8.9	49.6	177.7	156.2	330.9	7.2
	Establishments with 75 percent specialization or more in class	36	2.5	28.4	1.9	3.9	18.8	78.8	73.5	149.0	2.7
34436	Nuclear reactor steam supply systems:										
	Establishments with this product class primary	18	12.4	205.9	6.6	12.7	91.6	708.4	469.2	1 216.6	22.1
	Establishments with 75 percent specialization or more in class	10	3.6	58.6	2.1	4.3	32.4	142.2	107.9	256.5	(D)
34437	Complete metal tanks, standard, nonpressure:										
	Establishments with this product class primary	150	9.9	124.9	7.5	14.8	85.9	242.4	271.8	513.7	9.3
	Establishments with 75 percent specialization or more in class	92	4.8	55.7	3.7	7.5	39.4	115.8	146.8	262.8	5.7
34438	Metal tanks and vessels, custom made at factory:										
	Establishments with this product class primary	145	14.9	209.9	10.8	22.1	137.7	418.1	411.6	829.9	18.2
	Establishments with 75 percent specialization or more in class	87	6.6	98.3	4.6	9.4	61.6	198.0	191.4	385.7	9.3
34439	Metal tanks and vessels, custom made, field erected:										
	Establishments with this product class primary	69	10.2	154.4	7.2	13.8	99.6	460.7	311.3	749.7	18.4
	Establishments with 75 percent specialization or more in class	42	5.7	85.3	4.0	7.5	54.1	272.3	170.0	415.8	13.2
3444	**Sheet metal work:**										
	Entire industry	3 430	77.4	980.2	56.7	109.5	636.6	2 095.2	2 808.9	4 863.5	110.6
	Establishments with 75 percent specialization or more	3 224	65.1	834.4	48.0	92.6	544.1	1 787.6	2 386.1	4 134.8	96.5
34442	Culverts, flumes, and irrigation pipes:										
	Establishments with this product class primary	149	3.5	48.6	2.5	5.0	29.4	160.8	227.7	383.8	9.0
	Establishments with 75 percent specialization or more in class	131	2.9	41.8	2.1	4.2	25.4	144.7	204.4	344.9	8.0
34444	Metal roofing and roof drainage equipment:										
	Establishments with this product class primary	116	4.5	60.0	3.3	6.0	36.0	154.2	366.0	513.7	12.6
	Establishments with 75 percent specialization or more in class	73	2.0	26.0	1.4	2.7	14.2	66.9	171.6	237.3	(D)
34445	Metal flooring and siding:										
	Establishments with this product class primary	90	8.4	105.3	5.5	10.5	68.4	283.2	731.9	1 001.6	14.9
	Establishments with 75 percent specialization or more in class	57	3.3	45.0	2.4	4.6	28.5	132.4	309.3	436.2	8.0
34446	Other sheet metal work:										
	Establishments with this product class primary	1 107	45.1	575.2	33.4	65.2	376.7	1 153.5	1 079.7	2 217.7	52.6
	Establishments with 75 percent specialization or more in class	951	34.9	448.3	26.3	51.6	300.8	891.9	831.8	1 712.1	41.8

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3446	**Architectural metal work:**										
	Entire industry	1 511	20.8	247.7	15.1	29.4	152.3	505.5	450.8	947.1	22.2
	Establishments with 75 percent specialization or more	1 412	16.2	189.1	11.8	22.9	114.7	397.9	356.0	743.1	18.6
3448	**Prefabricated metal buildings:**										
	Entire industry	466	22.7	289.7	15.9	31.6	174.9	694.5	1 100.6	1 779.2	32.2
	Establishments with 75 percent specialization or more	439	19.6	248.9	13.8	27.4	151.5	611.3	996.8	1 591.2	28.7
34481	Prefabricated metal industrial and commercial buildings, except parts:										
	Establishments with this product class primary	119	14.1	191.0	9.7	19.4	113.1	452.1	667.0	1 117.7	21.8
	Establishments with 75 percent specialization or more in class	96	10.3	138.0	7.1	14.2	81.6	340.2	509.0	848.3	16.2
34482	Prefabricated portable building and parts:										
	Establishments with this product class primary	91	6.7	77.6	4.9	9.7	49.3	195.2	364.2	545.2	8.4
	Establishments with 75 percent specialization or more in class	84	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3449	**Miscellaneous metal work:**										
	Entire industry	412	16.3	211.5	10.2	20.2	115.7	436.9	893.6	1 330.8	20.5
	Establishments with 75 percent specialization or more	351	13.1	172.8	8.2	16.2	95.4	344.7	762.3	1 108.8	17.7
34494	Fabricated concrete reinforcing bars and joists:										
	Establishments with this product class primary	159	9.7	131.3	6.0	12.0	72.0	255.2	586.7	846.1	11.9
	Establishments with 75 percent specialization or more in class	136	8.2	112.1	5.1	10.2	62.7	214.8	521.3	740.1	(D)
34495	Other metal building materials and curtain walls:										
	Establishments with this product class primary	97	5.3	66.1	3.3	6.6	35.5	155.9	265.5	416.4	7.5
	Establishments with 75 percent specialization or more in class	67	3.5	44.8	2.2	4.2	23.5	101.4	188.4	287.7	6.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3441	Fabricated structural metal....1977..	5,505.2	4,483.0	382.5	639.7	92	4,860.9	4,483.0	377.9	92
	1972..	3,920.1	3,106.5	380.4	433.2	89	3,305.9	3,106.5	199.4	93
	1967..	2,967.8	2,324.8	301.8	341.2	89	2,561.5	2,324.8	236.4	91
3442	Metal doors, sash, and trim....1977..	3,135.6	2,702.9	207.9	224.9	93	2,974.1	2,702.9	271.2	91
	1972..	2,077.6	1,742.5	187.1	148.0	90	1,902.9	1,742.5	160.4	91
	1967..	1,413.6	1,219.0	117.0	77.6	91	1,301.5	1,219.0	82.5	94
3443	Fabricated plate work (boiler shops).....1977..	7,432.4	6,079.1	757.6	595.7	89	6,641.2	6,079.1	562.1	92
	1972..	3,339.0	2,850.3	248.2	240.5	92	3,265.7	2,850.3	415.4	87
	1967..	2,688.5	2,209.4	227.6	251.5	91	2,589.4	2,209.4	380.0	85
3444	Sheet metal work....1977..	4,863.5	4,165.2	355.7	342.9	92	4,607.5	4,165.2	442.3	90
	1972..	2,680.0	2,235.7	245.6	198.7	90	2,650.7	2,235.7	415.0	84
	1967..	1,812.4	1,401.6	194.4	216.4	88	1,687.1	1,401.6	285.5	83
3446	Architectural metal work....1977..	947.1	815.2	87.7	44.2	90	950.9	815.2	135.7	86
	1972..	573.7	477.9	62.5	33.3	88	589.4	477.9	111.5	81
	1967..	484.9	389.9	77.3	17.7	83	504.9	389.9	115.0	77
3448	Prefabricated metal buildings....1977..	1,779.2	1,571.7	108.2	99.2	94	1,656.0	1,571.7	84.3	95
	1972..	608.9	521.6	65.3	22.0	89	578.8	521.6	57.2	90
	1967..	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3449	Miscellaneous metal work....1977..	1,330.8	1,045.0	101.1	184.7	91	1,332.9	1,045.0	287.9	78
	1972..	980.4	763.7	68.4	148.3	91	994.6	763.7	230.9	76
	1967..	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

(NA) Not available.

Table 3C. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Fabricated structural metal (SIC 3441)	Metal door, sash, and trim (SIC 3442)	Fabricated plate work (boiler shops) (SIC 3443)	Sheet metal work (SIC 3444)	Architectural metal work (SIC 3446)	Prefabricated metal buildings (SIC 3448)	Miscellaneous metal work (SIC 3449)	Other industries
	Total	(X)	5,505.2	3,135.6	7,432.4	4,863.5	947.1	1,779.2	1,330.8	(X)
	Primary products	(X)	4,483.0	2,702.9	6,079.1	4,165.2	815.2	1,571.7	1,045.0	(X)
	Secondary products	(X)	382.5	207.9	757.6	355.7	87.7	108.2	101.1	(X)
	Miscellaneous receipts	(X)	639.7	224.9	595.7	342.9	44.2	99.2	184.7	(X)
3441-	Fabricated structural metal	4,860.9	4,483.0	1.9	98.0	21.0	16.6	29.1	9.8	201.3
34411	Fabricated structural metal for buildings	2,578.5	2,402.5	(D)	64.4	18.2	14.2	(D)	(D)	42.5
34412	Fabricated structural metal for bridges	280.2	267.3	-	2.2	(D)	(D)	(D)	(D)	7.3
34413	Other fabricated structural metal	1,474.1	1,299.3	(D)	30.6	(D)	(D)	-	(D)	139.6
34410	Fabricated structural metal, n.s.k	528.0	514.0	-	.8	.8	.4	-	(Z)	12.0
3442-	Metal doors, sash, and trim	2,974.1	5.3	2,270.9	-	56.9	(D)	(D)	24.8	181.1
34421	Metal doors and frames, except storm doors	1,089.3	(D)	959.2	-	5.1	(D)	(D)	(D)	104.3
34422	Metal window sash and frames, except storm sash	801.9	(D)	742.9	-	19.0	(D)	-	(D)	34.7
34423	Metal molding and trim and store fronts	191.1	(D)	138.2	-	27.6	(D)	(D)	5.3	18.3
34424	Metal combination screen and storm sash and doors	401.7	(D)	393.0	-	(D)	(D)	-	-	4.3
34425	Metal window door screens and weatherstrip	152.4	(D)	136.1	-	(D)	(D)	-	(D)	15.8
34420	Metal doors, sash, and trim, n.s.k	337.7	-	333.4	-	.7	-	-	-	3.6
3443-	Fabricated plate work (boiler shops)	6,641.2	100.9	-	6,079.1	28.7	(D)	(D)	(D)	425.7
34431	Heat exchangers and steam condensers	900.5	4.2	-	747.8	-	-	-	-	148.5
34432	Fabricated steel plate, stacks, and weldments	1,095.5	65.8	-	947.2	15.4	(D)	-	(D)	61.9
34433	Steel power boilers, parts, and attachments	960.3	(D)	-	925.4	(D)	-	-	-	(D)
34434	Gas cylinders	173.3	-	-	(D)	-	-	-	-	(D)
34435	Complete metal tanks, standard, pressure	298.5	.1	-	(D)	(D)	-	-	-	(D)
34436	Nuclear reactor steam supply systems	695.4	-	-	657.6	-	-	-	-	37.8
34437	Complete metal tanks, standard, nonpressure	486.2	(D)	-	422.5	8.9	(D)	-	-	47.6
34438	Metal tanks and vessels, custom made at factory	770.6	4.8	-	725.7	(D)	-	(D)	-	38.8
34439	Metal tanks and vessels, custom made, field erected	663.2	(D)	-	621.7	(D)	(D)	-	-	22.9
34430	Fabricated platework (boiler shops), n.s.k	597.7	.5	-	581.3	2.2	-	.2	-	13.6
3444-	Sheet metal work	4,607.5	36.1	19.8	33.8	4,165.2	20.7	(D)	(D)	308.5
34442	Culverts, flumes, and irrigation pipes	371.2	(D)	-	11.7	340.7	-	-	(D)	16.7
34444	Metal roofing and roof drainage equipment	597.7	13.0	(D)	(D)	468.7	(D)	(D)	8.0	97.2
34445	Metal flooring and siding	775.8	(D)	2.9	(D)	723.0	(D)	(D)	(D)	43.0
34446	Other sheet metal work	2,121.1	15.0	(D)	18.8	1,925.6	(D)	(D)	.3	120.5
34440	Sheet metal work, n.e.c	741.4	.7	1.4	1.1	707.0	.1	-	.1	31.0
34460	Architectural and ornamental metal work	950.9	41.2	(D)	7.8	26.5	815.2	(D)	(D)	46.3
3448-	Prefabricated metal buildings	1,656.0	22.4	(D)	(D)	22.4	(D)	1,571.7	(D)	28.4
34481	Prefabricated metal industrial and commercial buildings, except parts	912.2	(D)	-	(D)	14.2	(D)	885.2	-	1.2
34482	Prefabricated portable building and parts	630.2	(D)	(D)	(D)	7.9	(D)	575.2	(D)	25.2
34480	Prefabricated metal buildings, n.s.k	113.6	-	-	-	.3	-	111.3	-	2.1
3449-	Miscellaneous metal work	1,332.9	71.0	16.5	(D)	19.7	1.7	(D)	1,045.0	151.3
34494	Fabricated concrete reinforcing bars and joists	900.1	68.5	(D)	(D)	(D)	.9	(D)	667.4	140.5
34495	Other metal building materials and curtain walls	359.2	2.5	(D)	-	(D)	.7	(D)	313.6	6.1
34490	Miscellaneous metal work, n.s.k	73.6	-	-	2.4	-	-	2.6	64.0	4.6
	Other shipments by 4-digit product group:									
2431-	Millwork	(X)	.1	23.1	-	.1	(D)	-	-	(X)
2452-	Prefabricated wood buildings	(X)	(D)	(D)	-	-	-	(D)	-	(X)
2514-	Metal household furniture	(X)	(D)	(D)	-	-	(D)	-	-	(X)
2541-	Wood partitions and fixtures	(X)	-	(D)	-	-	-	(D)	-	(X)
2542-	Metal partitions and fixtures	(X)	(D)	(D)	(D)	(D)	(D)	-	-	(X)
2819-	Industrial inorganic chemicals, n.e.c	(X)	-	-	(D)	-	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	25.9	(D)	8.9	(D)	(D)	4.2	(X)
3231-	Products of purchased glass	(X)	-	4.8	(D)	-	-	-	-	(X)
3312-	Blast furnace and steel mill products	(X)	(D)	(D)	(D)	2.2	.1	-	(D)	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** – Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Fabricated structural metal (SIC 3441)	Metal doors, sash, and trim (SIC 3442)	Fabricated plate work (boiler shops) (SIC 3443)	Sheet metal work (SIC 3444)	Architectural metal work (SIC 3446)	Prefabricated metal buildings (SIC 3448)	Miscellaneous metal work (SIC 3449)	Other industries
	Other shipments by 4-digit product group--Con.									
3315-	Steel wire and related products	(X)	-	-	-	-	-	-	2.2	(X)
3317-	Steel pipe and tubes	(X)	-	(D)	3.1	.4	-	4.0	-	(X)
3321-	Gray iron castings	(X)	(D)	-	(D)	-	-	-	-	(X)
3324-	Steel investment castings	(X)	-	-	(D)	-	-	-	-	(X)
3334-	Primary aluminum	(X)	-	(D)	-	-	-	-	-	(X)
3354-	Aluminum extruded products	(X)	1.1	(D)	-	(D)	-	-	-	(X)
3356-	Nonferrous rolling and drawing, n.e.c.	(X)	-	-	(D)	(D)	-	-	-	(X)
3411-	Metal cans	(X)	(Z)	.3	-	(D)	-	-	-	(X)
3412-	Metal barrels, drums, and pails	(X)	-	-	-	(D)	-	-	-	(X)
3423-	Hand and edge tools, n.e.c.	(X)	(D)	(D)	-	(D)	-	-	-	(X)
3429-	Hardware, n.e.c.	(X)	(D)	(D)	-	(D)	(D)	-	(D)	(X)
3432-	Plumbing fittings and brass goods	(X)	.3	-	-	(D)	-	-	-	(X)
3433-	Heating equipment, except electric	(X)	(D)	(D)	19.2	(D)	(D)	-	-	(X)
3451-	Screw machine products	(X)	(D)	-	.2	(D)	.3	-	(D)	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	(D)	-	(D)	-	-	-	-	(X)
3462-	Iron and steel forgings	(X)	(D)	-	-	-	-	-	.3	(X)
3469-	Metal stampings, n.e.c.	(X)	(D)	(D)	(D)	18.0	-	-	(D)	(X)
3479-	Metal coating and allied services	(X)	(D)	(D)	(D)	(D)	(D)	-	(D)	(X)
3494-	Valves and pipe fittings	(X)	4.3	-	(D)	.1	-	(D)	-	(X)
3496-	Miscellaneous fabricated wire products	(X)	(D)	(D)	-	(D)	(D)	-	(D)	(X)
3498-	Fabricated pipe and fittings	(X)	(D)	(D)	(D)	.8	.7	(D)	.1	(X)
3499-	Fabricated metal products, n.e.c.	(X)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(X)
3511-	Turbines and turbine generator sets	(X)	(D)	-	(D)	-	-	-	-	(X)
3523-	Farm machinery and equipment	(X)	(D)	-	(D)	(D)	-	(D)	-	(X)
3531-	Construction machinery	(X)	(D)	-	(D)	(D)	-	-	-	(X)
3532-	Mining machinery	(X)	.1	-	(D)	(D)	-	-	-	(X)
3534-	Elevators and moving stairways	(X)	(D)	(D)	(D)	-	(D)	-	-	(X)
3535-	Conveyors and conveying equipment	(X)	(D)	-	17.9	(D)	-	.2	-	(X)
3551-	Food products machinery	(X)	-	-	(D)	(D)	-	(D)	-	(X)
3554-	Paper industries machinery	(X)	-	-	(D)	-	-	-	-	(X)
3559-	Special industry machinery, n.e.c.	(X)	-	-	(D)	(D)	-	-	-	(X)
3561-	Pumps and pumping equipment	(X)	-	-	(D)	(D)	-	-	-	(X)
3563-	Air and gas compressors	(X)	-	-	3.0	-	-	-	-	(X)
3564-	Blowers and fans	(X)	(D)	-	(D)	(D)	(D)	(D)	-	(X)
3567-	Industrial furnaces and ovens	(X)	.3	-	(D)	.3	-	-	-	(X)
3569-	General industrial machinery, n.e.c.	(X)	(D)	-	(D)	(D)	-	-	-	(X)
3585-	Refrigeration and heating equipment	(X)	(D)	-	(D)	2.2	-	-	-	(X)
3589-	Service industry machinery, n.e.c.	(X)	-	-	(D)	-	(D)	-	-	(X)
3599-	Machinery, except electrical, n.e.c.	(X)	(D)	-	14.5	3.9	(D)	-	-	(X)
3621-	Motors and generators	(X)	-	-	(D)	(D)	-	-	(D)	(X)
3622-	Industrial controls	(X)	-	-	-	.3	.8	-	5.4	(X)
3634-	Electric housewares and fans	(X)	(D)	(D)	-	(D)	-	-	-	(X)
3639-	Household appliances, n.e.c.	(X)	-	-	(D)	-	-	-	-	(X)
3643-	Current-carrying wiring devices	(X)	-	-	-	.1	-	-	2.4	(X)
3648-	Lighting equipment, n.e.c.	(X)	(D)	(D)	-	-	(D)	-	-	(X)
3662-	Radio and TV communication equipment	(X)	-	(D)	(D)	-	-	(D)	(D)	(X)
3699-	Electrical equipment and supplies, n.e.c.	(X)	-	(D)	-	(D)	-	-	-	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	(D)	(D)	(D)	-	-	-	(X)
3715-	Truck trailers	(X)	(D)	-	(D)	-	-	(D)	-	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	(D)	-	-	-	-	(X)
3731-	Ship building and repairing	(X)	(D)	-	-	-	-	-	-	(X)
3743-	Railroad equipment	(X)	(D)	-	-	(D)	-	-	-	(X)
3769-	Space vehicle equipment, n.e.c.	(X)	-	-	(D)	-	-	-	-	(X)
3823-	Process control instruments	(X)	-	-	123.2	.6	-	-	-	(X)
3995-	Burial caskets	(X)	-	(D)	(D)	-	-	-	-	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	72.5	6.0	87.4	29.5	3.9	2.0	9.8	(X)
99980 98	Other miscellaneous receipts	(X)	144.8	47.2	259.1	49.3	6.9	20.4	17.6	(X)
99989 00	Resales	(X)	422.4	171.7	249.2	263.9	33.4	76.9	157.2	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977 — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry, and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3441-	3317 Steel pipe and tubes	(D)
	3321 Gray iron foundries	(D)
	3452 Bolts, nuts, rivets, and washers	(D)
	3462 Iron and steel forgings	(D)
	3465 Automotive stampings	(D)
	3469 Metal stampings, n.e.c	10.1
	3499 Fabricated metal products, n.e.c	11.2
	3531 Construction machinery	(D)
	3537 Industrial trucks and tractors	(D)
	3541 Machine tools, metal cutting types	(D)
	3644 Noncurrent-carrying wiring devices	(D)
	3731 Ship building and repairing	50.8
	3743 Railroad equipment	(D)
	3761 Guided missiles and space vehicles	(D)
3442-	2499 Wood products, n.e.c	9.2
	3079 Miscellaneous plastics products	(D)
	3354 Aluminum extruded products	(D)
	3429 Hardware, n.e.c	12.7
	3523 Farm machinery and equipment	(D)
	3714 Motor vehicle parts and accessories	10.8
3443-	2819 Industrial inorganic chemicals n.e.c	(D)
	3312 Blast furnaces and steel mills	(D)
	3321 Gray iron foundries	(D)
	3423 Hand and edge tools, n.e.c	(D)
	3433 Heating equipment, except electric	10.8
	3494 Valves and pipe fittings	(D)
	3511 Turbines and turbine generator sets	(D)
	3519 Internal combustion engines, n.e.c	(D)
	3533 Oil field machinery	(D)
	3551 Food products machinery	(D)
	3561 Pumps and pumping equipment	26.9
	3569 General industrial machinery, n.e.c	(D)
	3585 Refrigeration and heating equipment	(D)
	3714 Motor vehicle parts and accessories	(D)
	3715 Truck trailers	(D)
	3724 Aircraft engines and engine parts	(D)
	3731 Ship building and repairing	(D)
	3795 Tanks and tank components	(D)
3444-	3353 Aluminum sheet, plate, and foil	66.4
	3433 Heating equipment, except electric	16.7
	3465 Automotive stampings	(D)
	3469 Metal stampings, n.e.c	(D)
	3479 Metal coating and allied services	39.5
	3523 Farm machinery and equipment	29.2
	3535 Conveyors and conveying equipment	5.8
	3564 Blowers and fans	19.0
	3585 Refrigeration and heating equipment	(D)
	3599 Machinery, except electrical, n.e.c	5.4
	3714 Motor vehicle parts and accessories	(D)
3446-	3316 Cold finishing of steel shapes	(D)
	3469 Metal stampings, n.e.c	(D)
3448-	3662 Radio and TV communication equipment	(D)
3449-	3312 Blast furnaces and steel mills	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	FABRICATED STRUCTURAL METAL						
3441- --	Total	.....	(NA)	(X)	4,860.9	(X)	3,305.9
34411 --	Fabricated structural metal for buildings	.....	(NA)	(NA)	2,578.5	4,782.4	1,935.0
	Iron and steel for sale to other companies:						
34411 21	Industrial	1,000 s. tons.	442	**1,223.9	890.7	1,554.3	594.7
34411 22	Commercial		320	*614.3	435.7		
34411 23	Residential		50	**84.0	50.5	1,193.5	432.6
34411 24	Institutional, medical, and religious		101	**101.6	65.3		
34411 26	Public and educational		119	**100.7	64.3		
34411 27	Public utilities		110	**258.3	211.9	205.8	90.2
	Iron and steel for installation by own company on site of construction:						
34411 61	Industrial		201	**341.8	263.6	553.8	260.1
34411 62	Commercial		174	**298.5	207.2		
34411 63	Residential		27	(S)	13.8	916.8	372.9
34411 64	Institutional, medical, and religious		70	**44.1	35.9		
34411 66	Public and educational		75	**49.2	40.1		
34411 67	Public utilities	1,000 s. tons.	46	*85.6	85.9	144.9	66.4
34411 71	Aluminum		21	(S)	24.1	34.8	46.7
34411 00	Fabricated structural metal for building, n.s.k.	.....	(NA)	(X)	189.6	178.5	71.4
34412 --	Fabricated structural metal for bridges	.....	(NA)	(NA)	280.2	782.7	391.2
	Iron, steel, and aluminum for sale to other companies:						
34412 12	Highway bridges, trestles, and viaducts	1,000 s. tons.	83	291.1	209.2		
34412 16	Railway bridges, trestles, and viaducts		18	*16.4	10.6		
34412 17	Special purpose bridges		8	(S)	7.9	732.7	367.1
34412 61	Iron, steel, and aluminum bridges, trestles, and viaducts (highway, railway, and special purpose bridges for installation by own company on site of construction)	1,000 s. tons.	8	29.1	35.9		
34412 00	Fabricated structural metal for bridges, n.s.k.	.....	(NA)	(X)	16.6	50.0	24.1
34413 --	Other fabricated structural metal	.....	(NA)	(NA)	1,474.1	1,171.1	598.8
	Iron and steel for sale to other companies:						
34413 11	For ships, boats, and barges	1,000 s. tons.	29	(S)	324.8	31.9	23.5
34413 41	For transmission towers, substations, radio antenna towers, and supporting structures		36	245.8	186.3	175.5	92.8
34413 53	For offshore oil and gas platforms		9	(D)	235.0	101.1	53.8
34413 55	For tunneling and subway work		10	(S)			
34413 57	For aerospace and defense		7	(S)	3.8		
34413 58	Other fabricated structural iron and steel, excluding pressure vessels and storage tanks, fabricated reinforcing bars, bar joists, fabricated metal buildings, steel flooring, and roof decks		225	(S)	432.4	452.0	211.9
	Iron and steel for installation by own company on site of construction or for shipbuilding:						
34413 61	For ships, boats, and barges		20	(S)	49.6	81.9	37.8
34413 71	For transmission towers, substations, radio antenna towers, and supporting structures		6	17.1	13.2	68.5	39.7
34413 82	For aerospace and defense		7	5.1	5.8		
34413 83	Other fabricated structural iron and steel, including dam locks and dam gates, but excluding pressure vessels and storage tanks, fabricated reinforcing bars, bar joists, fabricated metal buildings, steel flooring, and roof decks		46	(S)	100.8	188.5	97.6
34413 84	Aluminum, for ships, boats, barges, transmission towers, and other structures, excluding tanks, fabricated metal buildings, etc		12	(S)	13.3	3.8	6.4
34413 98	Structural metal, other than iron, steel, or aluminum	1,000 s. tons.	4	**.6	.8	14.3	7.9
34413 00	Other fabricated structural metal, n.s.k.	.....	(NA)	(X)	108.4	[1]53.6	27.4
34410 00	Fabricated structural metal, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	366.0	(X)	320.7
34410 02	Fabricated structural metal, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	162.1	(X)	60.2
	METAL DOORS, SASH, AND TRIM						
3442- --	Total	.....	(NA)	(X)	2,974.1	(X)	1,902.9
34421 --	Metal doors and frames, except storm doors	.....	(NA)	(X)	1,089.3	(X)	686.7
	Aluminum doors:						
	Industrial:						
34421 05	Overhead	Thousands....	18	(S)	16.4	29.4	7.3
34421 07	Sliding		18	(S)	21.3	(NA)	11.7
34421 09	All other	Thousands....	18	**163.0	41.9	152.9	19.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	METAL DOORS, SASH, AND TRIM--Con.						
34421 --	Metal doors and frames, except storm doors--Con.						
	Aluminum doors--Con.						
	Residential:						
34421 11	Swing	Thousands	20	*1,325.6	57.6	1,372.0	45.9
34421 12	Closet		3	*24.9	1.2	132.9	4.2
34421 16	Sliding (glass, patio type)		89	**1,859.7	202.7	1,247.9	94.5
34421 18	All other, including garage, but excluding shower doors and tub enclosures		19	*277.1	20.5	666.9	17.7
	Commercial and institutional, excluding shower doors and tub enclosures:						
34421 21	Overhead and sliding		14	(S)	24.1	58.2	6.4
34421 22	Swing		22	(S)	61.4	229.2	45.0
34421 23	All other		16	(S)	14.8	356.1	26.7
	Iron and steel doors, including stainless steel doors:						
	Industrial:						
34421 24	Overhead		19	(S)	50.8	184.5	36.0
34421 25	Swing		17	(S)	44.6	287.3	17.2
34421 26	All other, including sliding		23	(S)	40.1	83.6	25.0
	Residential:						
34421 27	Garage		8	230.3	26.1	116.8	8.3
34421 28	Steel composite doors (steel clad with foam wood components)		6	935.6	39.0		
34421 30	Insulated steel entrance doors		14	(S)	87.6	2,104.0	65.7
34421 31	All other, including slide, swing and closet, but excluding shower doors and tub enclosures		13	*1,249.1	30.6		
	Commercial and institutional, excluding shower doors and tub enclosures:						
34421 32	Overhead and sliding		7	56.3	20.6	35.5	8.2
34421 34	Swing		30	*912.2	62.5	739.7	35.5
34421 36	All other		14	(S)	26.8	257.8	13.0
34421 39	Metal doors other than steel or aluminum		2	(D)		(NA)	6.2
	Metal doorframes, including trim sold as integral part of doorframe:						
34421 42	Aluminum		12	**312.5	21.1	927.7	49.5
	Steel:						
34421 43	16 gage and heavier		39	**1,877.2	50.9	1,816.3	40.1
34421 44	Lighter than 16 gage		16	(S)	19.4	894.4	19.2
34421 45	Shower doors and tub enclosures	Thousands	23	**813.4	35.0	1,208.8	29.4
34421 00	Metal doors and frames, except storm doors, n.s.k.		(NA)	(X)	72.3	(X)	54.1
34422 --	Metal window sash and frames, except storm sash		(NA)	(X)	801.9	(X)	511.6
	Residential:						
34422 20	Steel	Thousands	8	(S)	2.2	925.1	11.4
	Aluminum:						
34422 21	Single and double-hung		113	(S)	284.3	7,195.9	108.1
34422 22	Awning		32	(S)	38.4	1,513.3	43.4
34422 23	Jalousie		17	(S)	7.8	433.4	10.7
34422 24	Horizontal sliding		82	*6,917.2	198.6	7,100.5	141.3
34422 29	All other		41	(S)	49.8	11,493.6	41.0
	Other, including commercial, industrial, etc.:						
34422 35	Steel		16	(S)	17.0	265.8	11.2
	Aluminum:						
34422 41	Single and double-hung		27	(S)	35.1	694.7	16.7
34422 42	Awning		11	*260.7	7.2	1,752.8	17.3
34422 43	Projected		17	(S)	18.0	164.5	8.7
34422 49	All other		36	(S)	72.5	1,922.4	41.9
34422 98	Metal window sash and frames, other than steel or aluminum	Thousands	7	(S)	8.1	106.2	9.9
34422 00	Metal window sash and frames, except storm sash, n.s.k.		(NA)	(X)	63.0	(X)	50.0
34423 --	Metal molding and trim and storefronts		(NA)	(X)	191.1	(X)	148.5
	Metal molding and trim:						
34423 21	Steel		22	(X)	35.0	(X)	30.7
34423 25	Aluminum		53	(X)	136.0	(X)	87.6
34423 51	Metal storefronts, sold complete at factory		11	(X)	10.5	(X)	9.9
34423 00	Metal molding and trim and storefronts, n.s.k.		(NA)	(X)	9.6	(X)	20.3
34424 --	Metal combination screen and storm sash and doors		(NA)	(X)	401.7	(X)	228.1
34424 11	Metal storm sash	Thousands	21	(S)	34.3	552.1	2.9
	Aluminum and steel:						
34424 12	Sash		118	*9,129.6	174.5	(NA)	128.9
34424 13	Doors	Thousands	138	(S)	169.3	3,156.2	80.9
34424 00	Metal combination screen and storm sash and doors, n.s.k.		(NA)	(X)	23.6	(X)	15.4

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3442- --	METAL DOORS, SASH, AND TRIM--Con.						
34425 --	Metal window and door screens, except combination, and metal weatherstrip	.....	(NA)	(X)	152.4	(X)	95.5
34425 11	Screen doors, metal	Thousands	20	(S)	24.7	705.5	6.0
34425 12	Aluminum and steel window screens, with metal frames, including tension and roll types	↑	64	(S)	86.4	(NA)	51.3
34425 51	Weatherstrip, metal	Thousands	14	(S)	35.2	348.9	35.2
34425 00	Metal window and door screens, except combination, and metal weatherstrip, n.s.k.	.....	(NA)	(X)	6.1	(X)	3.0
34420 00	Metal doors, sash, and trim, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	248.8	(X)	177.3
34420 02	Metal doors, sash, and trim, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	88.9	(X)	55.2
	FABRICATED PLATE WORK (BOILER SHOPS)						
3443- --	Total	.....	(NA)	(X)	6,641.2	(X)	3,265.7
34431 --	Heat exchangers and steam condensers, except for nuclear applications	.....	(NA)	(X)	900.5	(X)	[3]447.1
	Heat exchangers, closed types, industrial:						
34431 13	Bare tube	1,000 sq. ft. (heat transfer surface).	90	(S)	787.5	(NA)	267.3
34431 18	Fin tube	1,000 sq. ft. (heat transfer surface).	48			(NA)	100.0
34431 55	Steam condensers	1,000 sq. ft. (condensing surface).	27	(S)	86.1	(NA)	66.9
34431 00	Heat exchangers and steam condensers, except for nuclear applications, n.s.k.	.....	(NA)	(X)	26.9	(X)	17.9
34432 --	Fabricated steel plate, including stacks and weldments (factory assembled or formed and prepared for field erection)	.....	(NA)	(X)	1,095.5	(X)	617.3
34432 21	Shielding, for use in nuclear reactors	.....	16	(X)	57.5	([4])	([4])
34432 36	Pipe, penstocks, tunnel lining, stacks, and breeching	.....	78	(X)	220.4	(NA)	150.0
34432 98	Weldments and fabricated steel plate for other purposes	.....	391	(X)	786.9	[4]825.7	[4]443.7
34432 00	Fabricated steel plate, n.s.k.	.....	(NA)	(X)	30.8	(X)	23.6
34433 --	Steel power boilers, parts, and attachments, over 15 p.s.i. steam working pressure, except for nuclear applications	.....	(NA)	(X)	960.3	(X)	[3]728.2
	Stationary power boilers:						
	Water tube:						
	10,000 lb/hr and under:						
34433 12	Over 15 to 449 p.s.i. steam working pressure	Units	5	(S)	12.8	1,358.0	15.7
34433 14	450 p.s.i. steam working pressure and over	↑	1			317.0	8.0
	10,001 lb/hr to 100,000 lb/hr:						
34433 16	Over 15 to 449 p.s.i. steam working pressure		11	353	31.6	340.0	21.0
34433 18	450 p.s.i. steam working pressure and over		7	56	21.7		
	100,001 lb/hr to 250,000 lb/hr:						
34433 21	Over 15 to 449 p.s.i. steam working pressure		6	82	36.2	89.0	15.8
34433 23	450 p.s.i. steam working pressure and over		3			69.0	20.0
	250,001 lb/hr and over:						
34433 31	Over 15 to 449 p.s.i. steam working pressure		3	(S)	463.0	([5])	([5])
34433 33	450 p.s.i. steam working pressure and over		4				
	Fire tube:						
34433 36	Horizontal return, tubular		3	116	4.0	8,927.0	43.9
	Scotch type (package steam generators):						
34433 43	Hot water type		8	1,084	15.5		
34433 42	Steam pressure type		9	2,022	46.9		
34433 45	Other types		10	(S)	53.5	783.0	1.4
34433 48	Marine boilers	Units	5			(NA)	26.6
34433 52	Parts and attachments for steel power boilers, sold separately	.....	26	(X)	265.9	(X)	[5]563.8
34433 00	Steel power boilers, parts, and attachments, over 15 p.s.i. steam working pressure, except for nuclear applications, n.s.k.	.....	(NA)	(X)	9.2	(X)	12.0
34434 --	Gas cylinders	.....	(NA)	(X)	173.3	(X)	93.5
34434 12	Ferrous	Thousands	21	**6,687.5	169.4	6,244.1	91.3
34434 18	Nonferrous	Thousands	2	(D)			
34434 00	Gas cylinders, n.s.k.	.....	(NA)	(X)	3.8	(X)	2.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3443- --	FABRICATED PLATE WORK (BOILER SHOPS)--Con.						
34435 --	Metal tanks, complete at factory, standard line, pressure.....	.....	(NA)	(X)	298.5	(X)	174.7
34435 12	Truck tanks for delivery of liquefied petroleum gas (butane, propane, etc.).....	Thousands.....	6	(S)	6.0	.8	8.7
34435 28	All other liquefied petroleum gas tanks (under 3,000 gallon capacity).....		20	(S)	109.4	(NA)	78.5
34435 35	Air receivers.....		14	**250.6	34.6	(NA)	11.2
34435 38	Other pressure tanks, including anhydrous ammonia under 3,000 gallon capacity, but excluding range boilers, expansion tanks, hot water storage tanks, and tanks for water heaters sold separately.....	Thousands.....	50	(S)	117.0	(NA)	61.2
34435 00	Metal tanks, complete at factory, standard line, pressure, n.s.k.....	.....	(NA)	(X)	31.5	(X)	15.1
34436 --	Nuclear reactor steam supply systems:						
34436 00	Nuclear reactor steam supply systems, including primary vessels and tanks sold separately; heat exchangers and condensers sold separately; pressurizers, components, and auxiliary equipment sold separately.....	.....	27	(X)	695.4	(X)	([3])
34437 --	Metal tanks, complete at factory, standard line, nonpressure..	.....	(NA)	(X)	486.2	(X)	255.1
	Storage tanks:						
	4,000 gallon capacity and under:						
33437 12	Ferrous.....	Thousands.....	115	(S)	166.6		
33437 15	Nonferrous.....		21	(S)	14.8		
	Over 4,000 gallon capacity:					(NA)	187.8
34437 17	Ferrous.....		116	(S)	171.2		
34437 19	Nonferrous.....		27	(S)	25.4		
	Other nonpressure tanks, including tanks for trailers, metal septic tanks, and truck tanks for delivery of fluids:						
34437 48	Ferrous.....		51	(S)	68.0		
34437 50	Nonferrous.....	Thousands.....	17	2.0	12.0	(X)	51.2
34437 00	Metal tanks, complete at factory, standard line, pressure, nonpressure, n.s.k.....	.....	(NA)	(X)	28.1	(X)	16.1
34438 --	Metal tanks and vessels, custom fabricated at the factory.....	.....	(NA)	(X)	770.6	(X)	382.1
	Pressure vessels and tanks (over 24 in. outside diameter and not less than 5 cu. ft. capacity), including process vessels, tanks, and kettles, for refineries, chemical plants, papermills, and other processing industries, except tanks for liquid petroleum gas:						
34438 04	Ferrous.....	1,000 s. tons.	176	(S)	465.1		
34438 07	Nonferrous.....		51	(S)	111.5	(NA)	254.5
34438 15	Liquefied petroleum gas tanks, 3,000 gallon capacity and over.....		12	63.4	49.3	28.2	15.4
34438 18	All other tanks and vessels, custom fabricated at the factory, including anhydrous ammonia tanks 3,000 gallon capacity and over.....	1,000 s. tons.	55	(S)	85.1	(X)	91.4
34438 00	Metal tanks and vessels, custom fabricated at the factory, n.s.k.....	.....	(NA)	(X)	59.6	(X)	20.8
34439 --	Metal tanks and vessels, custom fabricated and field erected..	.....	(NA)	(X)	663.2	(X)	369.3
	Bulk storage tanks:						
	Elevated types:						
34439 21	Ferrous.....	1,000 s. tons.	24	(S)	83.3		
34439 23	Nonferrous.....		3	(D)			
	Ground storage types:					(X)	225.4
34439 30	Ferrous.....		54	*339.4	352.0		
34439 36	Nonferrous.....		10	15.4	32.6		
	Pressure vessels and tanks, including gas holders and process vessels, tanks, and kettles, for refineries, chemical plants, papermills, and other processing industries:						
34439 56	Ferrous.....		24	(S)	153.7		
34439 58	Nonferrous.....	1,000 s. tons.	9	(S)	31.6	(NA)	124.3
34439 00	Metal tanks and vessels, custom fabricated and field erected, n.s.k.....	.....	(NA)	(X)	10.1	(X)	19.6
34430 00	Fabricated plate work (boiler shops), n.s.k., typically for establishments with 20 employees or more (see note).....	.....	(NA)	(X)	327.1	(X)	161.4
34430 02	Fabricated plate work (boiler shops), n.s.k., typically for establishments with less than 20 employees (see note).....	.....	(NA)	(X)	270.6	(X)	37.0

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	SHEET METAL WORK						
3444- --	Total	.....	(NA)	(X)	4,607.5	(X)	2,650.7
34442 --	Culverts, flumes, irrigation pipes, etc.	.....	(NA)	(X)	371.2	(X)	242.0
34442 13	Steel	.....	77	(X)	311.4	(X)	196.7
34442 15	Aluminum	.....	13	(X)	42.4	(X)	28.5
34442 19	Other metals	.....	2	(X)	17.4	(X)	9.9
34442 00	Culverts, flumes, irrigation pipes, etc., n.s.k.	.....	(NA)			(X)	6.9
34444 --	Metal roofing and roof drainage equipment	.....	(NA)	(X)	597.7	(X)	422.4
	Metal roofing:						
34444 11	Steel, all types	1,000 s. tons.	77	**623.7	317.0	908.3	233.6
34444 17	Aluminum and other metals, all types		22	51.3	77.4	84.0	82.9
	Roof drainage equipment, including eave troughs, etc.:						
34444 23	Steel		52	(S)	75.1	92.0	42.8
34444 29	Aluminum		27	(S)	102.1	47.0	43.5
34444 31	All other metals	1,000 s. tons.	9	4.5	4.8	(X)	19.6
34444 00	Metal roofing and roof drainage equipment, n.s.k.	.....	(NA)	(X)	21.2		
34445 --	Metal flooring and siding	.....	(NA)	(X)	775.8	(X)	301.7
34445 05	Fabricated metal flooring	1,000 s. tons.	31	**130.1	69.2	112.9	41.1
	Metal siding:						
34445 16	Steel		32	**148.4	136.2	169.1	71.3
	Aluminum:						
34445 17	Residential, including mobile homes		46	*262.0	496.2	165.7	159.4
34445 18	Other (commercial, industrial, farm buildings, etc.)		19	(S)	49.4	8.2	9.9
34445 19	Other metals	1,000 s. tons.	3	(X)	24.9	73.2	20.0
34445 00	Metal flooring and siding, n.s.k.	.....	(NA)			(X)	-
34446 --	Other sheet metal work	.....	(NA)	(X)	2,121.1	(X)	1,187.9
34446 11	Cornices, skylights, ceiling domes, copings, and gravel stops	.....	22	(X)	29.5	(X)	31.8
34446 15	Roof ventilators	.....	37	(X)	81.5	(X)	29.6
	Bins and vats:						
34446 21	Grain, excluding drying floors, fans, heaters, etc.	.....	23	(X)	186.5	(X)	60.0
34446 25	Other, including feed storage	.....	18	(X)	53.0	(X)	13.7
	Other sheet metal products:						
	Stove pipe and furnace smoke pipe, elbows, and ducts:						
34446 32	Aluminum	.....	19	(X)	44.9	(X)	23.4
34446 34	Steel	.....	68	(X)	201.9	(X)	103.1
	Air conditioning ducts, including dust-collecting ducts:						
34446 36	Aluminum	.....	42	(X)	36.9	(X)	17.4
34446 37	Steel	.....	133	(X)	181.6	(X)	139.6
	Restaurant, hotel, and kitchen sheet metal equipment, such as table tops, drainboard tops, etc.:						
34446 42	Aluminum	.....	11	(X)	24.2	(X)	7.7
34446 44	Steel	.....	65	(X)	99.7	(X)	60.8
	Metal awnings, canopies, carports, and patios, assembled or unassembled, prefabricated types:						
34446 46	Aluminum	.....	78	(X)	114.4	(X)	70.4
34446 47	Steel	.....	10	(X)	14.3	(X)	15.8
34446 51	Soffits, fascia, and shutters, aluminum	.....	34	(X)	118.2	(X)	41.5
	Other sheet metal work, except cornices, skylights, ceiling domes, copings, gravel stops, roof ventilators, bins, and vats:						
34446 62	Steel	.....	333	(X)	515.2	(X)	329.2
34446 64	Aluminum	.....	124	(X)	128.3	(X)	103.6
34446 98	Other sheet metal work of metals other than steel or aluminum	.....	62	(X)	51.6	(X)	26.9
34446 00	Other sheet metal work, n.s.k.	.....	(NA)	(X)	239.1	(X)	113.4
34440 00	Sheet metal work, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	583.6	(X)	376.2
34440 02	Sheet metal work, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	157.8	(X)	120.5
	ARCHITECTURAL METAL WORK						
3446- --	Total	.....	(NA)	(X)	950.9	(X)	589.4
34460 --	Architectural and ornametal metal work, except curtain wall and other exterior panels:						
	Warm air or air conditioning grilles, registers, and air diffusors:						
34460 07	Iron and steel	1,000 s. tons.	3	(S)	60.6	(NA)	(6)
34460 09	Aluminum		19	(S)	45.4	(NA)	(7)
	Other grilles, including open mesh partitions:						
34460 12	Iron and steel		19	(S)	59.8	(NA)	650.8
34460 17	Aluminum	1,000 s. tons.	10	(S)	15.4	(NA)	722.7

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3446- --	ARCHITECTURAL METAL WORK--Con.						
34460 --	Architectural and ornametal metal work, except curtain wall and other exterior panels--Con.						
34460 22	Fences and gates, other than wire, iron, steel, and aluminum.	1,000 s. tons.	21	(S)	25.7	(NA)	21.9
	Stairs, staircases, fire escapes, and railings:						
34460 31	Iron and steel		211	**126.0	121.6	128.4	92.0
34460 36	Aluminum		48	(S)	23.1	(NA)	18.4
	Open flooring and grating for building construction:						
34460 41	Iron and steel		47	161.1	120.2	106.4	52.6
34460 46	Aluminum		20	(S)	12.3	1.9	3.9
34460 49	Load bearing and nonload bearing studs, iron, steel, and aluminum		14	93.3	53.9	(NA)	156.2
	Other types:						
34460 53	Iron and steel		72	*177.2	150.4		
34460 55	Aluminum		26	(S)	36.0		
34460 61	Architectural and ornamental metal work other than aluminum or steel	1,000 s. tons.	25	(S)	33.6	(NA)	10.3
34460 00	Architectural metal work, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	127.6	(X)	91.8
34460 02	Architectural metal work, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	65.3	(X)	68.8
	PREFABRICATED METAL BUILDINGS						
3448- --	Total		(NA)	(X)	1,656.0	(X)	578.8
34481 --	Prefabricated metal building systems, excluding farm service buildings, residential buildings, and parts for prefabricated buildings		(NA)	(X)	912.2	(X)	258.9
34481 15	Industrial and commercial	Thousands	99	(S)	779.9	(X)	258.9
34481 17	Institutional, medical, and religious		21	(S)	83.2		
34481 18	Public and educational	Thousands	20	(S)	46.0		
34481 00	Prefabricated metal building systems, n.s.k.		(NA)	(X)	3.1	(X)	-
34482 --	Other prefabricated and portable metal buildings and parts		(NA)	(X)	630.2	(X)	r311.4
34482 14	Grain storage buildings, including farm and commercial types, steel, and aluminum	Thousands	29	(S)	187.0	(X)	17.1
34482 15	Other farm service buildings (livestock shelters, machinery storage, etc.), excluding wood frame buildings, steel, and aluminum		28	(S)	89.0	10.6	49.0
	Dwellings, including vacation homes and camps:						
34482 13	Steel		7	(S)	10.3	.7	7.1
34482 23	Aluminum		4	(S)	9.8		
	Small utility buildings, including tool sheds, cabanas, storage houses, etc.:						
34482 16	Steel		14	(S)	88.5	93.6	63.9
34482 26	Aluminum		18	(S)	20.6	78.5	11.2
	Other, including garages, etc.:						
34482 17	Steel		10	(S)	17.7	6.6	10.0
34482 27	Aluminum		8	(S)	23.1	1.9	13.6
34482 54	Panels, parts, or sections for prefabricated buildings, not sold as a complete unit, including sandwich and singleface panels, steel, and aluminum	Thousands	36	(S)	173.5	(NA)	76.3
34482 00	Other prefabricated and portable metal buildings and parts, n.s.k.		(NA)	(X)	10.8	(X)	63.2
34480 00	Prefabricated metal buildings, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	45.2	(X)	3.3
34480 02	Prefabricated metal buildings, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	68.4	(X)	5.2
	MISCELLANEOUS METAL WORK						
3449- --	Total		(NA)	(X)	1,332.9	(X)	994.6
34494 --	Fabricated bar joists and concrete reinforcing bars	1,000 s. tons.	(NA)	(X)	900.1	2,944.2	583.3
	Fabricated bar joists:						
34494 47	Long span		42	373.7	125.1	728.5	180.9
34494 43	Short span (open web)		38	428.1	158.8		
34494 52	Fabricated concrete reinforcing bars	1,000 s. tons.	122	*2,064.5	600.6	2,215.7	402.4
34494 00	Fabricated bar joists and concrete reinforcing bars, n.s.k.		(NA)	(X)	15.7	(X)	-

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3449- --	MISCELLANEOUS METAL WORK--Con.						
34495 --	Other miscellaneous metal building materials and curtain wall, except reinforcing bars	.....	(NA)	(X)	359.2	(X)	273.6
	Metal plaster bases:						
34495 11	Expanded metal lath	Million sq.yd.	6	18.5	23.8	52.5	23.7
34495 32	Metal plaster base accessories, including corner beads, screeds, grounds, etc	.....	18	(X)	88.9	(X)	47.0
	Curtain wall:						
34495 73	Steel, including stainless	Million sq.ft.	15	47.9	38.1	76.8	38.4
34495 75	Aluminum	↕	19	(S)	138.0	484.9	102.2
34495 79	All other, including combination of metals	Million sq.ft.	12	**216.1	37.0	(NA)	12.6
34495 00	Other miscellaneous metal building materials and curtain wall, except reinforcing bars, n.s.k.	.....	(NA)	(X)	33.4	(X)	49.7
34490 00	Miscellaneous metal work, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	42.8	(X)	132.5
34490 02	Miscellaneous metal work, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	30.8	(X)	5.2

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1] Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2] For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3] For 1972, data for Nuclear reactor steam supply systems (1977 product 34436 00) was included in data for product classes 34431 and 34433.

[4] For 1972, product code 34432 21 was included with product code 34432 98.

[5] For 1972, product code 34433 31 and 34433 33 were included with product code 34433 52.

[6] For 1972, product code 34460 07 was included with product code 34460 12.

[7] For 1972, product code 34460 09 was included with product code 34460 17.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34411, FABRICATED STRUCTURAL METAL FOR BUILDINGS		
United States	2,578.5	1,935.0
New England Division:		
Maine	11.7	EE
Massachusetts	29.9	50.5
Connecticut	18.8	26.3
Middle Atlantic Division:		
New York	106.4	135.1
New Jersey	59.6	69.4
Pennsylvania	214.4	181.7
East North Central Division:		
Ohio	104.9	88.6
Indiana	93.6	82.7
Illinois	130.9	105.7
Michigan	93.7	61.3
Wisconsin	46.5	36.4
West North Central Division:		
Minnesota	75.2	32.8
Iowa	51.9	28.4
Missouri	78.2	37.1
Nebraska	29.4	11.5
Kansas	29.9	17.2
South Atlantic Division:		
Delaware	5.9	(NA)
Maryland	30.3	32.6
Virginia	79.7	66.4
West Virginia	26.8	EE
North Carolina	64.3	67.4
South Carolina	72.1	43.2
Georgia	45.6	26.2
Florida	56.1	42.2
East South Central Division:		
Kentucky	14.5	6.8
Tennessee	73.4	35.9
Alabama	87.8	56.8
Mississippi	30.3	21.7
West South Central Division:		
Arkansas	8.7	35.0
Louisiana	29.1	27.6
Oklahoma	60.8	29.1
Texas	296.3	158.6
Mountain Division:		
Montana	3.1	(NA)
Idaho	4.3	3.9
Colorado	25.4	22.0
New Mexico	8.8	BB
Arizona	19.4	21.1
Utah	25.3	6.8
Pacific Division:		
Washington	52.0	30.3
Oregon	25.2	EE
California	207.6	173.8
34412, FABRICATED STRUCTURAL METAL FOR BRIDGES		
United States	280.2	391.2
Middle Atlantic Division:		
New York	5.4	CC
Pennsylvania	30.9	79.2
East North Central Division:		
Ohio	6.2	11.2
Indiana	22.4	35.4
Illinois	13.5	33.6
West North Central Division:		
Minnesota	3.2	7.7
Iowa	3.3	EE
Nebraska	4.6	BB

Product class and geographic area	Value of product shipments	
	1977	1972
34412, FABRICATED STRUCTURAL METAL FOR BRIDGES--Con.		
South Atlantic Division:		
Virginia	15.1	24.7
North Carolina	17.7	7.5
Georgia	13.2	CC
Florida	3.7	BB
East South Central Division:		
Tennessee	19.8	12.9
Alabama	28.4	FF
West South Central Division:		
Oklahoma	7.5	7.0
34413, OTHER FABRICATED STRUCTURAL METAL		
United States	1,474.1	598.8
New England Division:		
Massachusetts	4.8	21.0
Connecticut	9.0	BB
Middle Atlantic Division:		
New York	35.1	21.0
New Jersey	12.5	6.3
Pennsylvania	146.7	83.0
East North Central Division:		
Ohio	80.4	52.4
Indiana	24.3	24.1
Illinois	58.5	25.2
Michigan	28.9	22.9
Wisconsin	51.3	12.8
West North Central Division:		
Minnesota	19.7	2.5
Iowa	8.2	BB
Missouri	24.5	8.7
Kansas	10.0	5.4
South Atlantic Division:		
Virginia	14.1	BB
North Carolina	8.5	CC
Georgia	13.1	2.9
Florida	12.0	5.0
East South Central Division:		
Kentucky	11.9	BB
Tennessee	14.5	5.5
Alabama	37.1	11.5
Mississippi	23.2	CC
West South Central Division:		
Louisiana	229.0	FF
Oklahoma	50.0	33.8
Texas	113.3	60.0
Mountain Division:		
Colorado	4.9	(NA)
Arizona	4.9	EE
Utah	29.4	10.1
Pacific Division:		
Washington	21.2	12.1
Oregon	16.2	BB
California	97.8	34.8
34421, METAL DOORS AND FRAMES, EXCEPT STORM DOORS		
United States	1,089.3	686.7
New England Division:		
Massachusetts	11.1	12.3
Middle Atlantic Division:		
New York	64.3	69.1
New Jersey	24.9	21.8
Pennsylvania	52.4	36.8

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34421, METAL DOORS AND FRAMES, EXCEPT STORM DOORS--Con.		
East North Central Division:		
Ohio	120.7	77.6
Indiana	50.2	35.4
Illinois	32.2	33.7
Michigan	86.1	50.9
Wisconsin	10.0	2.0
West North Central Division:		
Minnesota	4.2	4.5
Missouri	33.8	BB
Nebraska	4.9	(NA)
Kansas	7.1	3.6
South Atlantic Division:		
Maryland	9.2	CC
Virginia	22.9	17.3
North Carolina	7.0	6.3
Georgia	74.2	34.6
Florida	49.2	41.7
East South Central Division:		
Kentucky	17.2	9.5
Tennessee	45.5	13.0
Alabama	8.6	CC
West South Central Division:		
Arkansas	32.5	18.7
Louisiana	5.6	BB
Oklahoma	3.0	AA
Texas	58.2	44.9
Mountain Division:		
Colorado	4.5	AA
Pacific Division:		
Washington	16.7	BB
Oregon	23.2	5.6
California	162.0	86.5
34422, METAL WINDOW SASH AND FRAMES, EXCEPT STORM SASH		
United States	801.9	511.6
New England Division:		
Massachusetts	10.7	5.4
Connecticut	6.2	2.2
Middle Atlantic Division:		
New York	20.8	16.3
New Jersey	14.3	4.4
Pennsylvania	54.1	43.2
East North Central Division:		
Ohio	54.6	56.9
Indiana	10.7	20.2
Illinois	14.1	11.4
Michigan	42.1	35.5
Wisconsin	16.8	7.3
West North Central Division:		
Minnesota	10.2	8.1
Missouri	15.1	8.8
Kansas	9.3	10.2
South Atlantic Division:		
North Carolina	16.6	BB
Georgia	18.5	23.9
Florida	56.2	60.8
East South Central Division:		
Kentucky	10.7	EE
Tennessee	16.3	2.9
Alabama	15.7	CC
West South Central Division:		
Arkansas	4.9	(NA)
Louisiana	3.9	BB
Texas	98.1	51.1
Mountain Division:		
Idaho	5.8	AA
Colorado	4.2	BB

Product class and geographic area	Value of product shipments	
	1977	1972
34422, METAL WINDOW SASH AND FRAMES, EXCEPT STORM SASH--Con.		
Pacific Division:		
Washington	21.8	11.4
Oregon	32.5	CC
California	152.6	58.7
34423, METAL MOLDING AND TRIM AND STORE FRONTS		
United States	191.1	148.5
Middle Atlantic Division:		
New York	9.1	6.4
New Jersey	6.8	(NA)
East North Central Division:		
Ohio	26.5	5.6
Indiana	16.9	13.1
Illinois	30.8	14.2
Michigan	6.1	25.7
Wisconsin	8.5	(NA)
Pacific Division:		
California	23.0	FF
34424, METAL COMBINATION SCREEN AND STORM SASH AND DOORS		
United States	401.7	228.1
New England Division:		
Massachusetts	17.7	5.4
Rhode Island	2.2	(NA)
Connecticut	6.4	4.8
Middle Atlantic Division:		
New York	24.9	23.2
New Jersey	12.2	15.1
Pennsylvania	47.2	21.6
East North Central Division:		
Ohio	31.5	31.9
Illinois	13.8	13.4
Michigan	15.5	7.8
Wisconsin	6.2	3.4
West North Central Division:		
Missouri	15.3	5.4
Kansas	11.3	4.4
South Atlantic Division:		
Maryland	4.1	2.5
Virginia	7.0	3.6
North Carolina	36.4	8.5
Georgia	6.7	AA
East South Central Division:		
Kentucky	6.2	1.6
Tennessee	19.2	CC
Alabama	2.6	(NA)
West South Central Division:		
Arkansas	21.4	EE
Oklahoma	5.2	AA
Texas	6.9	2.0
Pacific Division:		
Washington	3.3	BB
Oregon	4.7	(NA)
California	5.7	BB
34425, METAL WINDOW, DOOR SCREENS, AND WEATHERSTRIP		
United States	152.4	95.5
Middle Atlantic Division:		
New York	5.8	AA
New Jersey	4.5	1.1
East North Central Division:		
Ohio	2.3	11.1
Illinois	6.0	CC
Wisconsin	11.3	(NA)

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** – Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34425, METAL WINDOW, DOOR SCREENS, AND WEATHER-STRIP--Con.		
West North Central Division:		
Minnesota	3.0	AA
South Atlantic Division:		
Virginia	2.1	AA
Georgia	2.2	AA
Florida	17.1	12.7
East South Central Division:		
Tennessee	3.2	BB
Alabama	4.2	BB
West South Central Division:		
Texas	3.8	CC
Pacific Division:		
California	27.1	17.2
34431, HEAT EXCHANGERS AND STEAM CONDENSERS		
United States	900.5	(NA)
Middle Atlantic Division:		
New York	124.5	(NA)
New Jersey	31.6	(NA)
Pennsylvania	117.3	(NA)
East North Central Division:		
Ohio	26.3	(NA)
Illinois	25.1	(NA)
Wisconsin	46.5	(NA)
South Atlantic Division:		
Virginia	12.6	(NA)
East South Central Division:		
Tennessee	23.0	(NA)
West South Central Division:		
Oklahoma	185.2	(NA)
Texas	117.2	(NA)
Pacific Division:		
California	63.5	(NA)
34432, FABRICATED STEEL PLATE, STACKS, AND WELDMENTS		
United States	1,095.5	617.3
New England Division:		
New Hampshire	9.0	AA
Massachusetts	40.3	13.3
Connecticut	8.4	4.0
Middle Atlantic Division:		
New York	36.8	16.6
New Jersey	26.4	27.8
Pennsylvania	140.9	108.8
East North Central Division:		
Ohio	121.5	69.7
Indiana	30.2	7.7
Illinois	48.3	35.4
Michigan	72.6	34.2
Wisconsin	54.0	30.3
West North Central Division:		
Minnesota	26.5	9.0
Missouri	78.6	43.8
Kansas	5.8	8.0
South Atlantic Division:		
Maryland	10.0	6.5
Virginia	55.6	11.2
North Carolina	3.9	2.2
South Carolina	4.9	(NA)
Georgia	2.9	2.5
East South Central Division:		
Kentucky	2.9	(NA)
Tennessee	23.2	6.1
Alabama	27.5	5.7
34432, FABRICATED STEEL PLATE, STACKS, AND WELDMENTS--Con.		
West South Central Division:		
Louisiana	12.8	12.0
Oklahoma	23.4	5.0
Texas	41.9	18.5
Mountain Division:		
Colorado	13.7	9.4
Arizona	21.3	CC
Utah	13.4	10.4
Pacific Division:		
Washington	7.9	CC
California	65.3	55.0
34433, STEEL POWER BOILERS, PARTS, ATTACHMENTS		
United States	960.3	(NA)
Middle Atlantic Division:		
Pennsylvania	115.7	(NA)
East North Central Division:		
Illinois	4.2	(NA)
Pacific Division:		
California	8.2	(NA)
34434, GAS CYLINDERS		
United States	173.3	93.5
East North Central Division:		
Indiana	16.8	EE
34435, COMPLETE METAL TANKS, STANDARD, PRESSURE		
United States	298.5	174.7
Middle Atlantic Division:		
New Jersey	2.9	(NA)
Pennsylvania	26.6	9.2
East North Central Division:		
Ohio	28.3	11.3
Illinois	23.2	23.1
Michigan	8.0	3.2
Wisconsin	3.4	CC
West North Central Division:		
Minnesota	23.1	11.4
South Atlantic Division:		
South Carolina	4.6	BB
Florida	8.4	BB
West South Central Division:		
Texas	19.9	CC
Pacific Division:		
California	20.8	EE
34436, NUCLEAR REACTOR STEAM SUPPLY SYSTEMS		
United States	695.4	(NA)
Middle Atlantic Division:		
Pennsylvania	38.9	(NA)
34437, COMPLETE METAL TANKS, STANDARD, NONPRESSURE		
United States	486.2	255.1
New England Division:		
Massachusetts	6.4	CC
Middle Atlantic Division:		
New York	21.4	11.8
New Jersey	13.9	8.1
Pennsylvania	43.1	13.0

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34437, COMPLETE METAL TANKS, STANDARD, NONPRESSURE--Con.		
East North Central Division:		
Ohio	34.8	10.4
Indiana	21.5	11.4
Illinois	26.0	9.7
Michigan	3.8	13.6
Wisconsin	32.6	15.1
West North Central Division:		
Minnesota	11.8	9.5
Iowa	4.5	2.1
Missouri	32.4	17.9
Kansas	25.5	4.0
South Atlantic Division:		
Virginia	11.1	5.5
North Carolina	15.2	11.8
Georgia	9.2	3.2
Florida	11.0	4.9
East South Central Division:		
Kentucky	7.5	4.5
Tennessee	2.0	AA
Alabama	8.2	CC
West South Central Division:		
Arkansas	8.7	5.2
Louisiana	13.8	1.9
Oklahoma	17.6	9.8
Texas	48.8	24.9
Mountain Division:		
Colorado	2.9	2.3
New Mexico	3.1	1.7
Utah	3.1	1.5
Pacific Division:		
Washington	7.0	3.7
California	23.9	14.4
34438, METAL TANKS AND VESSELS, CUSTOM MADE AT FACTORY		
United States	770.6	382.1
New England Division:		
Massachusetts	9.2	5.6
Middle Atlantic Division:		
New York	20.4	18.5
New Jersey	18.3	15.6
Pennsylvania	79.5	32.8
East North Central Division:		
Ohio	41.9	19.9
Indiana	6.7	FF
Illinois	26.9	17.9
Michigan	8.5	CC
Wisconsin	5.7	8.1
West North Central Division:		
Missouri	51.0	19.8
South Atlantic Division:		
Virginia	8.5	BB
Florida	12.9	3.2
East South Central Division:		
Kentucky	9.4	3.6
Tennessee	6.3	BB
Alabama	35.3	15.7
Mississippi	20.5	BB
West South Central Division:		
Texas	162.5	57.7
Mountain Division:		
Utah	3.1	(NA)
Pacific Division:		
Washington	6.1	1.6
California	75.0	30.9
34439, METAL TANKS AND VESSELS, CUSTOM MADE, FIELD ERECTED		
United States	663.2	369.3
Middle Atlantic Division:		
New Jersey	3.1	1.3
East North Central Division:		
Indiana	31.9	22.3
Illinois	47.9	EE
West South Central Division:		
Texas	115.9	43.6
Pacific Division:		
California	28.8	15.3
34442, CULVERTS, FLUMES, AND IRRIGATION PIPES		
United States	371.2	242.0
Middle Atlantic Division:		
New York	14.3	5.1
New Jersey	11.7	3.7
Pennsylvania	19.3	7.7
East North Central Division:		
Ohio	30.2	16.4
Indiana	19.3	17.5
Illinois	9.3	5.7
Michigan	4.7	3.5
Wisconsin	6.2	4.5
West North Central Division:		
Minnesota	7.9	5.9
Iowa	6.7	4.0
North Dakota	2.7	2.4
Nebraska	29.2	6.3
Kansas	17.4	9.3
South Atlantic Division:		
North Carolina	11.9	AA
Florida	16.7	14.4
East South Central Division:		
Tennessee	7.2	BB
Alabama	5.2	BB
Mississippi	7.5	1.7
West South Central Division:		
Oklahoma	6.8	3.4
Texas	8.4	3.6
Mountain Division:		
Colorado	3.5	AA
Pacific Division:		
Washington	18.7	8.8
California	22.8	20.6
34444, METAL ROOFING AND ROOF DRAINAGE EQUIPMENT		
United States	597.7	422.4
Middle Atlantic Division:		
New York	4.8	7.9
New Jersey	23.0	15.6
Pennsylvania	79.4	49.0
East North Central Division:		
Ohio	53.2	92.2
Indiana	16.3	17.9
Illinois	45.4	17.2
Michigan	45.7	4.0
West North Central Division:		
Minnesota	4.1	AA
Nebraska	6.0	(NA)
South Atlantic Division:		
Georgia	13.3	BB
Florida	11.3	8.3

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34444, METAL ROOFING AND ROOF DRAINAGE EQUIPMENT--Con.		
East South Central Division:		
Tennessee	39.0	26.2
West South Central Division:		
Texas	43.9	15.0
Mountain Division:		
Colorado	3.2	(NA)
Pacific Division:		
Washington	16.2	(NA)
Oregon	4.3	AA
California	31.7	26.0
34445, METAL FLOORING AND SIDING		
United States	775.8	301.7
Middle Atlantic Division:		
New Jersey	47.4	EE
Pennsylvania	90.0	FF
East North Central Division:		
Ohio	301.1	73.7
Indiana	42.9	14.3
Illinois	11.3	12.4
Michigan	56.0	36.0
West North Central Division:		
Minnesota	5.3	(NA)
Missouri	33.7	2.7
Nebraska	4.9	1.5
South Atlantic Division:		
Georgia	14.1	CC
East South Central Division:		
Kentucky	5.7	(NA)
West South Central Division:		
Texas	15.1	18.0
Mountain Division:		
Colorado	2.0	(NA)
Pacific Division:		
Oregon	4.0	AA
California	21.4	EE
34446, OTHER SHEET METAL WORK		
United States	2,121.1	1,187.9
New England Division:		
Maine	7.6	BB
Massachusetts	44.9	31.8
Rhode Island	2.9	CC
Connecticut	9.2	10.7
Middle Atlantic Division:		
New York	138.3	82.1
New Jersey	61.2	50.7
Pennsylvania	154.4	53.3
East North Central Division:		
Ohio	203.7	152.4
Indiana	108.5	42.7
Illinois	177.5	79.9
Michigan	118.7	71.5
Wisconsin	58.4	52.0
West North Central Division:		
Minnesota	64.1	23.4
Iowa	56.3	37.6
Missouri	82.5	36.4
Nebraska	46.4	26.0
Kansas	17.6	CC
34446, OTHER SHEET METAL WORK--Con.		
South Atlantic Division:		
Maryland	34.8	6.8
Virginia	19.2	15.6
West Virginia	6.9	5.8
North Carolina	62.5	19.2
South Carolina	10.1	BB
Georgia	31.2	16.2
Florida	38.3	44.2
East South Central Division:		
Kentucky	11.5	23.3
Tennessee	28.3	6.0
Alabama	31.2	22.6
Mississippi	2.6	3.9
West South Central Division:		
Arkansas	27.4	5.6
Louisiana	13.8	10.6
Oklahoma	9.8	7.3
Texas	92.6	57.1
Mountain Division:		
Colorado	21.4	10.5
Arizona	19.3	7.5
Utah	2.9	3.2
Pacific Division:		
Washington	18.6	6.2
Oregon	26.2	13.2
California	228.6	114.7
34481, PREFABRICATED METAL INDUSTRIAL AND COMMERCIAL BUILDINGS, EXCEPT PARTS		
United States	912.2	258.9
New England Division:		
Massachusetts	7.0	BB
Middle Atlantic Division:		
Pennsylvania	24.5	3.6
East North Central Division:		
Ohio	69.5	FF
Illinois	79.9	FF
Michigan	2.9	(NA)
Wisconsin	43.5	CC
West North Central Division:		
Iowa	24.1	(NA)
Kansas	19.8	BB
South Atlantic Division:		
North Carolina	50.4	(NA)
Georgia	58.3	34.6
East South Central Division:		
Alabama	68.1	EE
West South Central Division:		
Texas	154.6	24.7
Pacific Division:		
California	83.1	27.9
34482, PREFABRICATED PORTABLE BUILDING AND PARTS		
United States	630.2	311.4
New England Division:		
Massachusetts	12.7	(NA)
Middle Atlantic Division:		
Pennsylvania	30.6	10.4
East North Central Division:		
Ohio	32.4	FF
Indiana	29.5	FF
Illinois	183.7	FF
Michigan	10.1	BB
Wisconsin	5.2	5.7

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34482, PREFABRICATED PORTABLE BUILDING AND PARTS--Con.		
West North Central Division:		
Iowa	23.4	(NA)
Nebraska	34.8	CC
South Atlantic Division:		
North Carolina	4.1	CC
Georgia	9.2	EE
Florida	10.7	8.9
East South Central Division:		
Tennessee	8.3	CC
Alabama	10.2	CC
West South Central Division:		
Louisiana	2.9	CC
Texas	36.7	29.2
Pacific Division:		
California	26.5	24.5
34494, FABRICATED CONCRETE REINFORCING BARS AND JOISTS		
United States	900.1	583.3
New England Division:		
Massachusetts	3.1	CC
Middle Atlantic Division:		
New Jersey	15.8	16.3
Pennsylvania	66.1	39.0
East North Central Division:		
Ohio	52.2	14.6
Indiana	23.7	4.6
Illinois	59.5	54.6
Michigan	16.6	CC
Wisconsin	5.0	AA
West North Central Division:		
Minnesota	23.7	EE
Iowa	4.3	1.8
Missouri	25.6	EE
South Atlantic Division:		
Maryland	21.5	12.3
Virginia	38.2	29.0
North Carolina	21.6	12.7
South Carolina	54.4	30.8
Georgia	25.0	CC
Florida	43.6	46.0
34494, FABRICATED CONCRETE REINFORCING BARS AND JOISTS--Con.		
East South Central Division:		
Tennessee	14.3	6.5
Alabama	38.1	41.4
West South Central Division:		
Arkansas	20.8	2.0
Louisiana	7.8	3.4
Texas	121.5	70.6
Mountain Division:		
Colorado	9.1	BB
Pacific Division:		
California	60.2	61.5
34495, OTHER METAL BUILDING MATERIALS AND CURTAIN WALLS		
United States	359.2	273.6
Middle Atlantic Division:		
Pennsylvania	17.7	24.5
East North Central Division:		
Ohio	39.8	41.7
Indiana	4.5	EE
Illinois	8.4	31.6
Michigan	3.4	7.9
West North Central Division:		
Kansas	8.3	AA
South Atlantic Division:		
Georgia	28.8	9.5
Florida	19.0	8.6
West South Central Division:		
Louisiana	9.2	(NA)
Texas	24.3	9.2
Mountain Division:		
Arizona	3.1	AA
Pacific Division:		
Washington	4.4	BB
California	50.6	36.3

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to 49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3441-	Fabricated structural metal	4,860.9	4,645.5	4,640.5	4,074.7	3,418.9	3,305.9	2,541.5	1,604.0
34411	Fabricated structural metal for buildings	2,578.5	2,452.1	2,687.3	2,530.4	2,263.2	1,935.0	1,430.3	984.0
34412	Fabricated structural metal for bridges	280.2	422.0	357.0	322.9	324.7	391.2	312.2	224.9
34413	Other fabricated structural metal	1,474.1	1,562.4	1,430.9	971.2	654.5	598.8	550.6	287.2
34410	Fabricated structural metal, n.s.k	528.0	(209.0)	165.3	250.2	326.5	380.9	268.4	107.8
3442-	Metal doors, sash, and trim	2,974.1	2,284.8	1,980.6	2,120.9	2,119.4	1,902.9	1,301.5	1,106.7
34421	Metal doors and frames, except storm doors	1,089.3	1,026.4	876.8	898.0	868.7	686.7	345.7	289.6
34422	Metal window sash and frames, except storm sash	801.9	523.0	419.5	514.4	537.6	511.6	257.5	308.8
34423	Metal molding and trim and store fronts	191.1	186.5	168.2	203.8	152.9	148.5	145.0	116.8
34424	Metal combination screen and storm sash and doors	401.7	282.4	253.9	246.4	253.6	228.1	198.2	221.4
34425	Metal window and door screens and weatherstrip	152.4	(154.6)	131.1	136.4	101.0	95.5	61.5	56.7
34420	Metal doors, sash, and trim, n.s.k	337.7	(111.9)	(131.1)	121.9	205.6	232.5	293.6	113.5
3443-	Fabricated plate work (boiler shops)	6,641.2	6,325.6	6,038.0	4,980.0	3,893.1	3,265.7	2,589.4	1,580.8
34431	Heat exchangers and steam condensers	900.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
34432	Fabricated steel plate, stacks, and weldments	1,095.5	1,334.3	1,368.6	1,092.3	771.6	617.3	517.9	374.2
34433	Steel power boilers, parts, and attachments	960.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
34434	Gas cylinders	173.3	203.5	188.9	133.9	116.2	93.5	72.2	46.3
34435	Complete metal tanks, standard, pressure	298.5	470.6	425.1	334.6	232.0	174.7	120.2	104.4
34436	Nuclear reactor steam supply systems	695.4	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
34437	Complete metal tanks, standard, nonpressure	486.2	345.0	363.2	362.6	315.8	255.1	177.3	145.6
34438	Metal tanks and vessels, custom made at factory	770.6	786.1	745.0	613.1	474.5	382.1	464.8	197.1
34439	Metal tanks and vessels, custom made, field erected	663.2	571.8	705.8	537.1	445.4	369.3	176.1	123.3
34430	Fabricated platework (boiler shops), n.s.k	597.7	(173.0)	(95.7)	(167.8)	189.3	198.4	195.7	88.6
3444-	Sheet metal work	4,607.5	4,141.7	3,515.8	3,645.8	3,054.9	2,650.7	1,687.1	1,324.7
34442	Culverts, flumes, and irrigation pipes	371.2	401.2	383.6	388.6	295.6	242.0	169.9	137.5
34444	Metal roofing and roof drainage equipment	597.7	664.6	598.1	(671.4)	450.1	422.4	(NA)	(NA)
34445	Metal flooring and siding	775.8	(660.4)	(561.2)	426.2	322.0	301.7	(NA)	(NA)
34446	Other sheet metal work	2,121.1	1,985.8	1,818.7	1,912.4	1,567.3	1,187.9	722.9	731.8
34440	Sheet metal work, n.e.c	741.4	(429.7)	(154.2)	(247.2)	419.9	496.7	385.7	149.2
34460	Architectural and ornamental metal work	950.9	830.0	800.9	814.3	737.0	589.4	504.9	306.2
3448-	Prefabricated metal buildings	1,656.0	1,093.5	908.4	1,055.2	888.3	578.8	(NA)	(NA)
34481	Prefabricated metal industrial and commercial buildings, except parts	912.2	607.2	487.8	536.8	408.1	258.9	(NA)	(NA)
34482	Prefabricated portable building and parts	630.2	475.7	413.2	516.4	459.6	311.4	(NA)	(NA)
34480	Prefabricated metal buildings, n.s.k	113.6	(S)	(S)	2.0	20.6	8.5	(.4)	(.4)
3449-	Miscellaneous metal work	1,332.9	1,449.6	1,491.4	1,734.0	1,253.7	994.6	(NA)	(NA)
34494	Fabricated concrete reinforcing bars and joists	900.1	849.5	978.3	1,156.6	740.0	583.3	(NA)	(NA)
34495	Other metal building materials and curtain walls	359.2	578.9	484.4	518.5	421.7	273.6	(NA)	(NA)
34490	Miscellaneous metal work, n.s.k	73.6	(S)	(28.7)	(58.9)	92.0	137.7	(NA)	(NA)

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix B, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3441, FABRICATED STRUCTURAL METAL					
	Materials, parts, containers, and supplies	.....	(X)	2,351.8	(X)	1,762.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331009	Concrete reinforcing bars	1,000 s. tons..	233.9	52.5	374.2	50.9
331010	Bars and bar shapes, except concrete reinforcing bars		*256.9	88.8	423.7	79.0
331012	Sheet and strip		*479.4	170.8	873.6	166.4
331013	Plates		*916.8	327.2	1,203.8	243.0
331015	Structural shapes		*2,282.6	778.8	2,874.0	579.7
331017	Wire and wire products		(S)	16.2	105.7	22.9
331019	All other		**216.7	82.4	195.4	41.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	8.0	34.6	7.3
331029	All other		(S)	17.9	49.5	10.0
	Stainless steel:					
331033	Sheet and strip		**6.2	10.5	5.4	7.9
331050	All other	1,000 s. tons..	(S)	7.2	1.6	2.6
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	.9	2.7	.4	.4
335143	Plate, sheet, and strip, including military cups and discs		(S)	4.4	.5	.2
335152	Pipe and tube		(S)	1.3	4.4	.8
	Aluminum and aluminum-base alloy:					
335301	Sheets, plate, and foil		(S)	10.0	67.9	26.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	6.5	16.6	8.0
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.....	.5	.5	3.8	1.6
	Primary metals:					
333401	Aluminum and aluminum-base alloy refinery shapes (ingot, slugs, billet, etc.)	1,000 s. tons..	(S)	3.5	1.3	.7
333348	Zinc and zinc-base alloy refinery shapes		11.6	7.9	23.1	6.1
	Scrap, excluding home scrap:					
999811	Iron and steel		(S)	.6	157.3	6.4
999808	Aluminum and aluminum-base alloy				(Z)	(Z)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)		(S)	2.3	2.6	1.2
332045	Steel	1,000 s. tons..	(X)	(2)	12.6	4.5
336100	Aluminum and aluminum-base alloy	Million lb.....	1.0	.9	1.2	.4
321101	Flat glass (plate and sheet)	Mil. sq. feet..	(S)	.4	(X)	(3)
265001	Paperboard boxes and containers	.....	(X)	1.5	(X)	(3)
285101	Paints, varnishes, lacquers, japans, and enamels	.....	(S)	15.7	(X)	(3)
344309	Parts specially designed for steel power boilers	.....	(X)	(2)	(X)	(3)
349402	Fabricated metal pipe, valves, and pipe fittings	.....	(X)	22.1	(X)	(3)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	2283.5	(X)	3203.8
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	427.7	(X)	90.1
	INDUSTRY 3442, METAL DOORS, SASH, AND TRIM					
	Materials, parts, containers, and supplies	.....	(X)	1,559.3	(X)	961.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331009	Concrete reinforcing bars	1,000 s. tons..	(D)	(D)	(X)	(5)
331010	Bars and bar shapes, except concrete reinforcing bars		*5.3	2.2	8.5	1.8
331012	Sheet and strip		*307.7	129.6	350.5	78.3
331013	Plates		(S)	1.0	2.9	.7
331015	Structural shapes		*7.0	3.3	4.4	1.0
331017	Wire and wire products		*5.7	5.0	5.0	2.0
331019	All other		(S)	4.4	11.9	52.8
	Alloy steel, except stainless:					
331021	Bar and bar shapes		1.0	.8	4.8	1.9
331029	All other		6.0	3.0		
	Stainless steel:					
331033	Sheet and strip		4.6	7.8	8.7	9.2
331050	All other	1,000 s. tons..	(S)	.7	.3	.4
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	**.5	.5	1.8	1.3
335152	Pipe and tube		(D)	(D)		
335143	Plate, sheet, and strip, including military cups and discs		**.4	.5	2.1	1.7
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**107.2	72.2	140.0	41.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**450.7	340.0	407.6	172.1
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.....	(S)	14.8	71.0	30.7
	Primary metals:					
333401	Aluminum and aluminum-base alloy refinery shapes (ingots, slugs, billets, etc.)	1,000 s. tons..	**111.4	107.1	132.8	63.7
333348	Zinc and zinc-base alloy refinery shapes		(S)	.8	.3	.4
	Scrap, excluding home scrap:					
999811	Iron and steel		(S)	.4	(D)	(D)
999808	Aluminum and aluminum-base alloy	1,000 s. tons..	12.9	2.4	(D)	(D)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix B, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3442, METAL DOORS, SASH, AND TRIM--Con.					
	Castings (rough and semifinished)					
332011	Iron (gray and malleable)	1,000 s. tons	(S)	3.0	1.7	.9
332045	Steel	1,000 s. tons	(S)	.6	.2	.1
336100	Aluminum and aluminum-base alloy	Million lb	*16.6	7.6	(X)	.8
321101	Flat glass (plate, float, and sheet)	Mil. sq. feet	(S)	169.5	(X)	104.6
970099	All other materials and components, parts, containers, and supplies		(X)	313.1	(X)	257.4
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	367.6	(X)	185.9
	INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)					
	Materials, parts, containers, and supplies		(X)	2,929.4	(X)	1,435.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331009	Concrete reinforcing bars	1,000 s. tons	**35.6	8.3	4.7	.8
331010	Bars and shapes, except concrete reinforcing bars		**131.0	45.0	75.7	15.6
331012	Sheet and strip		**549.5	184.4	527.3	107.7
331013	Plates		**1,692.1	571.3	2,075.9	392.6
331015	Structural shapes		(S)	91.9	257.7	52.7
331017	Wire and wire products		(S)	9.2	17.9	4.5
331019	All other		(S)	166.1	289.1	93.4
	Alloy steel, except stainless:					
331021	Bar and bar shapes		(S)	7.1	10.8	4.2
331029	All other		(S)	123.9	110.1	72.9
	Stainless steel:					
331033	Sheet and strip		**76.5	111.2	22.2	28.6
331050	All other	1,000 s. tons	**76.4	165.2	38.2	54.8
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	1.4	1.0	1.0
335143	Plate, sheet, and strip, including military cups and discs		**2.6	6.8	5.4	5.6
335152	Pipe and tube		**18.8	29.0	35.4	20.4
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	23.5	24.3	13.8
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*22.4	18.0	3.8	2.7
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb	*4.7	4.2	1.0	.7
	Primary metals:					
333401	Aluminum and aluminum-base alloy refinery shapes (ingot, slugs, billet, etc.)	1,000 s. tons	-	-	(X)	(X)
333348	Zinc and zinc-base alloy refinery shapes		1.5	1.1	(X)	(X)
	Scrap, excluding home scrap:					
999811	Iron and steel		(S)	8.1	32.9	2.4
999808	Aluminum and aluminum-base alloy		-	-	(X)	(X)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)		39.0	32.1	19.2	11.9
332045	Steel	1,000 s. tons	(S)	23.2	12.8	9.4
336100	Aluminum and aluminum-base alloy	Million lb	*2.2	6.8	.3	.4
321101	Flat glass (plate and sheet)	Mil. sq. feet	-	-	(X)	4.0
265001	Paperboard boxes and containers		(X)	2.1	(X)	[6]26.0
285101	Paints, varnishes, lacquers, japans, and enamels		(X)	9.1	(X)	[6]23.0
344309	Parts specially designed for steel power boilers		(X)	75.6	(X)	([7])
349402	Fabricated metal pipe, valves, and pipe fittings		(X)	133.6	(X)	[6]3.0
970099	All other materials and components, parts, containers, and supplies		(X)	617.6	(X)	[7]321.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	453.6	(X)	161.7
	INDUSTRY 3444, SHEET METAL WORK					
	Materials, parts, containers, and supplies		(X)	2,443.0	(X)	1,252.4
	Mill shapes and forms, except castings:					
	Carbon steel:					
331009	Concrete reinforcing bars	1,000 s. tons	*5.3	1.5	1.8	.3
331010	Bars and bar shapes, except concrete reinforcing bars		**37.0	14.1	43.4	8.4
331012	Sheet and strip		**1,656.9	594.9	2,061.0	405.0
331013	Plates		*73.5	25.4	72.9	14.2
331015	Structural shapes		**43.4	15.0	63.6	12.6
331017	Wire and wire products		(S)	6.9	13.3	3.4
331019	All other		*112.2	49.7	83.3	19.4
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	2.7	(X)	.8
331029	All other		(S)	35.1	11.8	3.5
	Stainless steel:					
331033	Sheet and strip		(S)	52.2	29.3	40.7
331050	All other	1,000 s. tons	(S)	5.9	2.1	2.6
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	2.1	3.0	3.5	2.0
335143	Plate, sheet, and strip, including military cups and discs		(S)	14.1	7.6	6.3
335152	Pipe and tube		3.4	3.2	(X)	2.6
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		765.1	518.7	500.1	177.6
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	28.1	56.7	22.7
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb	*39.5	31.5	7.5	5.1

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix B, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3444, SHEET METAL WORK--Con.					
	Primary metals:					
333401	Aluminum and aluminum-base alloy refinery shapes (ingots, slugs, billets, etc.)...	1,000 s. tons..	*45.0	36.8	(D)	(D)
333348	Zinc and zinc-base alloy refinery shapes		15.5	7.7	7.6	2.7
	Scrap, excluding home scrap:					
999811	Iron and steel		(S)	12.6	(X)	.8
999808	Aluminum and aluminum-base alloy				(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)		**.1	.1	(X)	.2
332045	Steel	1,000 s. tons..	(S)	1.1	(X)	2.3
336100	Aluminum and aluminum-base alloy	Million lb.....	42.8	2.1	(D)	(D)
321101	Flat glass (plate, float, and sheet)	Mil. sq. feet..	(S)	4.9	(X)	1.0
265001	Paperboard boxes and containers	.....	(X)	18.8	(X)	[6]26.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	31.3	(X)	[6]23.0
349402	Fabricated metal pipe, valves, and pipe fittings	.....	(X)	48.9	(X)	[6]3.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	226.7	(X)	228.4
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	650.0	(X)	261.9
	INDUSTRY 3446, ARCHITECTURAL METAL WORK					
	Materials, parts, containers, and supplies	.....	(X)	392.3	(X)	238.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331009	Concrete reinforcing bars	1,000 s. tons..	(S)	.2	(NA)	([8])
331010	Bars and bar shapes, except reinforcing bars		92.3	31.8	50.8	11.0
331012	Sheet and strip		297.4	104.4	179.8	34.5
331013	Plates		*41.1	9.7	27.6	5.4
331015	Structural shapes		*45.0	16.6	63.9	13.5
331017	Wire and wire products		*20.8	9.9	8.3	1.6
331019	All other		**34.6	16.5	71.2	15.1
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	1.5	(X)	.4
331029	All other		(D)	(D)	14.9	3.4
	Stainless steel:					
331033	Sheet and strip		(S)	4.3	.7	1.0
331050	All other	1,000 s. tons..	*.6	1.4	.3	.6
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....				
335152	Pipe and tube		(S)	1.4	(X)	.6
335143	Plate, sheet, and strip, including military cups and discs					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	10.4	(NA)	([8])
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*38.0	29.1	30.6	15.1
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.....	(S)	4.0	49.3	22.5
	Primary metals:					
333401	Aluminum and aluminum-base alloy refinery shapes (ingots, slugs, billets, etc.)....	1,000 s. tons..	4.1	3.1	(D)	(D)
333348	Zinc and zinc-base alloy refinery shapes		(D)	(D)	(D)	(D)
	Scrap, excluding home scrap:					
999811	Iron and steel		(S)	.3	(D)	(D)
999808	Aluminum and aluminum-base alloy		(D)	(D)	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)		**1.3	1.1	2.6	1.4
332045	Steel	1,000 s. tons..	**.1	.3	(X)	.7
336100	Aluminum and aluminum-base alloy	Million lb.....	4.4	1.2	(X)	1.0
321101	Flat glass (plate, float, and sheet)	Mil. sq. feet..	(X)	.6	(X)	.2
285101	Paint, varnishes, lacquers, shellacs, japans, and enamels	.....	(S)	3.1	(X)	([8])
970099	All other materials and components, parts, containers, and supplies	.....	(X)	112.1	(X)	[8]35.6
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	26.9	(X)	72.7
	INDUSTRY 3448, PREFABRICATED METAL BUILDINGS					
	Materials, parts, containers, and supplies	.....	(X)	984.1	(X)	299.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331009	Concrete reinforcing bars	1,000 s. tons..	2.8	.8	([9])	([9])
331011	Bars and bar shapes, except reinforcing bars		92.9	35.1	52.0	10.8
331012	Sheet and strip		1,012.4	429.1	566.2	121.9
331013	Plates		205.5	68.4	109.9	19.8
331015	Structural shapes		77.7	28.0	61.1	12.1
331017	Wire and wire products		3.1	1.6	7.6	3.0
331019	All other		53.0	22.1	[9]58.0	[9]15.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes					
331029	All other		*20.2	21.2	38.1	8.4
	Stainless steel:					
331033	Sheet and strip					
331050	All other	1,000 s. tons..	(S)	.7	-	-

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix B, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3448, PREFABRICATED METAL BUILDINGS--Con.					
	Mill shapes and forms, except castings--Con.					
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.	1.9	1.3	7.9	3.5
335152	Pipe and tube					
335143	Plate, sheet, and strip, including military cups and discs					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		*84.2	62.8	6.7	3.7
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		12.5	10.3	4.1	1.8
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.	(D)	([10])	.4	.2
	Scrap, excluding home scrap:					
999811	Iron and steel	1,000 s. tons	(D)	([10])	(D)	(D)
999808	Aluminum and aluminum-base alloy		(D)	([10])	(X)	(X)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)		.7	1.7	.2	.2
332045	Steel	1,000 s. tons	(D)	([10])	-	-
336100	Aluminum and aluminum-base alloy	Million lb.	(S)	.5	(D)	(D)
321101	Flat glass (plate, float, and sheet)	Mil. sq. feet	**5.2	1.3	(X)	.7
285101	Paint, varnishes, lacquers, shellacs, japans, and enamels		(X)	8.1	(X)	69.1
970099	All other materials and components, parts, containers, and supplies		(X)	[10]159.8		
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	131.3	(X)	28.3
	INDUSTRY 3449, MISCELLANEOUS METAL WORK					
	Materials, parts, containers, and supplies		(X)	722.8	(X)	506.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331009	Concrete reinforcing bars	1,000 s. tons	*1,205.0	255.8	1,404.6	193.0
331010	Bars and bar shapes, except reinforcing bars		432.8	101.0	285.0	46.1
331012	Sheet and strip		*198.6	76.0	189.1	41.7
331013	Plates		16.8	5.4	16.0	3.1
331015	Structural shapes		139.9	34.3	94.6	16.0
331017	Wire and wire products		55.1	18.2	47.8	11.5
331019	All other		55.9	17.0	79.8	12.2
	Alloy steel, except stainless:					
331021	Bars and bar shapes					
331029	All other					
	Stainless steel:		37.9	9.7	44.2	9.8
331033	Sheet and strip					
331050	All other	1,000 s. tons				
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.	(D)	(D)	(D)	(D)
335152	Pipe and tube		(D)	(D)	(Z)	(Z)
335143	Plate, sheet, and strip, including military cups and discs		(D)	(D)	(D)	(D)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(D)	(D)	94.4	38.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		13.9	11.0	11.6	5.6
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.	(D)	(D)	.1	.1
	Primary metals:					
333401	Aluminum and aluminum-base alloy refinery shapes (ingots, slugs, billet, etc.)	1,000 s. tons	(D)	(D)	(D)	(D)
333348	Zinc and zinc-base alloy refinery shapes		(D)	(D)	(D)	(D)
	Scrap, excluding home scrap:					
999811	Iron and steel		*236.1	11.5	(D)	(D)
999808	Aluminum and aluminum-base alloy		(D)	(D)	(X)	(X)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)		(D)	(D)	.1	.1
332045	Steel	1,000 s. tons	(D)	(D)	(D)	(D)
336100	Aluminum and aluminum-base alloy	Million lb.	(D)	(D)	(D)	(D)
321101	Flat glass (plate, float, and sheet)	Mil. sq. feet	(X)	2.6	(X)	1.4
285101	Paint, varnishes, lacquers, shellacs, japans, and enamels		(X)	4.0	(X)	(X)
970099	All other materials and components, parts, containers, and supplies		(X)	50.3	(X)	40.8
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	70.5	(X)	64.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1977, material codes 332045 and 344309 were included with material code 970099.

[3]For 1972, material codes 321101, 265001, 285101, 344309, and 349402 were included with material code 970099.

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form and establishments reporting on the short form that did not include a material inquiry.

[5]For 1972, material code 331009 was included with material code 331019.

[6]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[7]For 1972, material code 344309 was included with material code 970099.

[8]For 1972, material codes 331009, 335301, and 285101 were included with material code 970099.

[9]For 1972, material code 331009 was included with material code 331019.

[10]For 1977, material codes 335008, and 332045 were included with material code 970099.

Screw Machine Products, Fasteners and Washers; Metal Forgings and Stampings; and Metal Services

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DESCRIPTION OF INDUSTRIES

SCREW MACHINE PRODUCTS, FASTENERS AND WASHERS; METAL FORGINGS AND STAMPINGS; AND METAL SERVICES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3451	Screw Machine Products
3452	Bolts, Nuts, Rivets, and Washers
3462	Iron and Steel Forgings
3463	Nonferrous Forgings
3465	Automotive Stampings
3466	Crowns and Closures
3469	Metal Stampings, N.E.C.
3471	Plating and Polishing
3479	Metal Coating and Allied Services

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3451, SCREW MACHINE PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of automatic or hand screw machine products from rod, bar, or tube stock of metal, fiber, plastics, or other material. The products of this industry consist of a wide variety of unassembled parts and are usually manufactured on a job or order basis. Establishments primarily engaged in the manufacture of standard bolts, nuts, rivets, screws, and other industrial fasteners on headers, threaders, and nut-forming machines are classified in industry 3452.

The total value of shipments for establishments classified in the Screw Machine Products industry amounted to $1,772 million in 1977, an increase of 67 percent from 1972. The value of shipments of products classified as primary to the industry was $1,771 million, an increase of 64 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,024 million in 1977, was 58 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 43.8 thousand employees, an increase of 8 percent from 1972. The leading States in employment were Michigan, Illinois, Ohio, and Connecticut, accounting for approximately 55 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 50 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 9 percent of total value of shipments.

INDUSTRY 3452, BOLTS, NUTS, RIVETS, AND WASHERS

This industry comprises establishments primarily engaged in the manufacture of bolts, nuts, screws, rivets, washers, formed and threaded wire goods, and special industrial fasteners. Rolling mills engaged in the manufacture of similar products are classified in major group 33, and establishments primarily engaged in the manufacture of screw machine products in industry 3451.

The total value of shipments for establishments classified in the Bolts, Nuts, Rivets, and Washers industry amounted to $3,320 million in 1977, an increase of 62 percent from 1972. The value of shipments of products classified as primary to the industry was $3,130 million, an increase of 66 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the

shipments of most of the products of the industry. Value added by manufacture, at $1,840 million in 1977, was 53 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 60.9 thousand employees, an increase of 1 percent from 1972. The leading States in employment were Illinois, California, Pennsylvania, and Ohio, accounting for approximately 55 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 55 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3462, IRON AND STEEL FORGINGS

This industry comprises establishments primarily engaged in the manufacture of metal forgings. These establishments generally operate on a job or order basis, manufacturing metal forgings for sale to others or for interplant transfer. Establishments which produce metal forgings for incorporation in end products produced in the same establishment are classified on the basis of the end product.

The total value of shipments for establishments classified in the Iron and Steel Forgings industry amounted to $2,796 million in 1977, an increase of 97 percent from 1972. The value of shipments of products classified as primary to the industry was $2,967 million, an increase of 61 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,301 million in 1977, was 97 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 39.1 thousand employees, an increase of 14 percent from 1972. The leading States in employment were Ohio, Illinois, Wisconsin, and Michigan, accounting for approximately 65 percent of the industry's 1977 employment.

Detailed figures on the shipments of commercial steel forgings are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-34C, Commercial Steel Forgings. Some of these data are also shown in table 6a.

Certain products primary to industry 3462 are also primary to Industry 3312, Blast Furnaces and Steel Mills. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3463, NONFERROUS FORGINGS

This industry comprises establishments primarily engaged in the manufacture of nonferrous forgings, with or without the use of dies.

The total value of shipments for establishments classified in the Nonferrous Forgings industry amounted to $457 million in 1977, an increase of 105 percent from 1972. The value of shipments of products classified as primary to the industry was $540 million, an increase of 92 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $241 million in 1977, was 131 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 5.4 thousand employees, a decrease of 7 percent from 1972. The leading States in employment were Ohio, California, Massachusetts, and Pennsylvania, accounting for approximately 75 percent of the industry's 1977 employment. Data for Ohio and Massachusetts have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3465, AUTOMOTIVE STAMPINGS

This industry comprises establishments primarily engaged in the manufacture of automotive stampings, such as body parts, hubs, and trim.

The total value of shipments for establishments classified in the Automotive Stampings industry amounted to $9,739 million in 1977, an increase of 84 percent from 1972. The value of shipments of products classified as primary to the industry was $9,600 million, an increase of 86 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $4,655 million in 1977, was 75 percent above value added in 1972. All dollar figures shown in this

report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 132.4 thousand employees, an increase of 7 percent from 1972. The leading States in employment were Michigan, Ohio, Indiana, and Illinois, accounting for approximately 80 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for 71 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3466, CROWNS AND CLOSURES

This industry comprises establishments primarily engaged in the manufacture of metal crowns and closures. Establishments primarily engaged in the manufacture of plastic closures are classified in industry 3079.

The total value of shipments for establishments classified in the Crowns and Closures industry amounted to $537 million in 1977, an increase of 60 percent from 1972. The value of shipments of products classified as primary to the industry was $581 million, an increase of 71 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $265 million in 1977, was 66 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.9 thousand employees, a decrease of 2 percent from 1972. The leading States in employment were Illinois, Indiana, Pennsylvania, and New Jersey, accounting for approximately 70 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of metal closures only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of metal closures are reported monthly in the Census Bureau's Current Industrial Reports (CIR) M34H, Closures for Containers. Some of these data are also shown in table 6a.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for approximately 1 percent of total value of shipments.

INDUSTRY 3469, METAL STAMPINGS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of metal stampings and spun products, not elsewhere classified, including porcelain enameled products such as household appliance housings and parts; utensils and consumer stamped and spun products such as cooking and kitchen utensils; and other nonautomotive job stampings.

The total value of shipments for establishments classified in the Metal Stampings, N.E.C. industry amounted to $4,736 million in 1977, an increase of 77 percent from 1972. The value of shipments of products classified as primary to the industry was $4,555 million, an increase of 76 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,452 million in 1977, was 99 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 103.2 thousand employees, an increase of 13 percent from 1972. The leading States in employment were Illinois, Ohio, California, and Wisconsin, accounting for approximately 45 percent of the industry's 1977 employment. Data for Ohio have been withheld to avoid disclosing operations of individual companies. This represents a shift from 1972 when Illinois, Ohio, Wisconsin, and New York accounted for approximately 50 percent of the industry's employment.

The establishments in this industry with less than 10 employees were excluded from tha mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of shipments.

INDUSTRY 3471, PLATING AND POLISHING

This industry comprises establishments primarily engaged in all types of electroplating, platin, anodizing, coloring, and finishing of metals and formed products for the trade. Most of the work done in this industry is done on materials owned by others.

The total value of shipments for establishments classified in the Plating and Polishing industry amounted to $1,849 million in 1977, an increase of 78 percent from 1972. The value of shipments of products classified as primary to the industry was $1,775 million, an increase of 76 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $1,182 milllion in 1977, was 59 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 61.2 thousand employees, an increase of 11 percent from 1972. The leading States in

employment were California, Michigan, Illinois, and New York, accounting for approximately 50 percent of the industry's 1977 employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 13 percent of total value of shipments.

INDUSTRY 3479, METAL COATING AND ALLIED SERVICES

This industry comprises establishments primarily engaged in performing the following types of services on metals: (1) enameling, lacquering, and varnishing metal products for the trade; (2) hot-dip galvanizing of mill sheets, plates and bars, castings, and formed products fabricated of iron and steel; hot-dip coating such items with aluminum, lead, or zinc; retinning cans and utensils; (3) engraving, chasing, and etching jewelry, silverware, notarial and other seals, and other metal products for the trade and for job contracting for purposes other than printing; and (4) other metal services, not elsewhere classified. While most of the work in this industry is performed on materials owned by others, establishments performing this work on their own materials are also included. Establishments primarily engaged in electroplating, plating, polishing, anodizing, coloring, and finishing metals and formed products for the trade are classified in industry 3471.

The total value of shipments for establishments classified in the Metal Coating and Allied Services industry amounted to $1,608 million in 1977, an increase of 129 percent from 1972. The value of shipments of products classified as primary to the industry was $1,521 million, an increase of 139 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $781 million in 1977, was 106 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 32.3 thousand employees, an increase of 12 percent from 1972. The leading States in employment were California, Illinois, Ohio, and Texas, accounting for approximately 40 percent of the industry's 1977 employment. Data for Illinois have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3451, SCREW MACHINE PRODUCTS																
1977 Census--	1 727	1 770	654	43.8	551.6	36.0	74.3	395.5	1 023.9	762.2	1 771.7	71.9	(NA)	230.6	96	92
1976 ASM----	(NA)	(NA)	(NA)	40.8	465.6	33.3	67.5	326.0	858.5	613.3	1 456.6	38.2	590.2	200.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	40.5	433.7	32.8	65.0	308.3	795.4	529.9	1 326.7	47.9	587.2	180.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	48.3	492.5	40.1	84.0	359.0	979.9	628.2	1 586.6	45.3	572.6	218.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	48.8	460.2	40.5	86.0	332.9	894.2	601.7	1 480.4	58.5	533.4	172.0	(NA)	(NA)
1972 Census--	1 781	1 804	612	40.5	357.3	33.2	68.2	257.9	648.5	424.3	1 063.8	33.2	459.2	115.7	96	90
1971 ASM----	(NA)	(NA)	(NA)	39.1	318.3	31.6	64.4	222.1	565.7	389.9	957.0	18.7	457.0	110.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	45.1	355.9	37.0	76.1	249.2	631.2	414.3	1 042.4	32.1	455.0	118.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	49.9	395.8	42.0	89.3	295.6	723.4	439.3	1 161.0	49.0	485.6	102.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	50.3	375.4	42.3	89.0	279.2	683.9	408.1	1 090.4	48.3	445.7	96.2	(NA)	(NA)
1967 Census--	1 847	1 874	681	49.0	349.1	41.5	88.2	258.5	641.5	386.2	1 021.5	49.7	419.6	93.6	96	90
1966 ASM----	(NA)	(NA)	(NA)	46.1	309.0	39.2	85.1	234.9	555.4	391.9	949.0	38.6	(NA)	117.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	40.1	251.4	33.4	73.0	189.9	425.4	308.1	734.1	23.8	(NA)	73.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	36.3	226.0	30.2	65.8	170.8	367.3	267.6	636.4	20.2	283.4	61.8	(NA)	(NA)
1963 Census--	1 861	1 874	516	36.9	213.2	30.8	64.3	160.0	359.0	232.9	589.0	18.7	259.5	58.8	97	90
INDUSTRY 3452, BOLTS, NUTS, RIVETS, AND WASHERS																
1977 Census--	722	857	448	60.9	862.4	45.6	93.9	587.6	1 840.3	1 510.1	3 319.5	112.3	(NA)	714.3	94	94
1976 ASM----	(NA)	(NA)	(NA)	58.8	754.8	43.8	87.5	509.3	1 656.6	1 306.0	2 939.4	83.7	1 156.8	718.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	56.1	651.7	40.6	80.1	433.6	1 459.8	1 123.3	2 581.3	74.2	1 096.6	614.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	66.1	749.6	51.2	105.7	530.9	1 775.3	1 281.5	2 966.8	107.6	1 063.2	653.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	61.2	649.5	47.3	101.3	451.4	1 442.8	1 005.9	2 438.4	62.4	948.0	453.8	(NA)	(NA)
1972 Census--	580	678	396	60.1	590.7	46.0	96.6	407.7	1 196.8	851.9	2 027.6	55.7	924.2	407.8	93	91
1971 ASM----	(NA)	(NA)	(NA)	57.7	510.6	43.4	88.0	339.1	981.2	675.4	1 663.2	57.9	838.6	383.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	62.7	533.7	47.1	95.9	354.2	990.5	676.9	1 658.1	59.8	794.5	386.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	68.4	572.8	52.1	111.0	399.3	1 118.7	740.4	1 847.6	79.9	773.4	374.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	68.1	535.3	52.4	111.2	370.0	1 064.5	717.0	1 763.0	63.7	739.6	357.6	(NA)	(NA)
1967 Census--	577	662	392	67.2	498.1	52.2	108.5	347.2	979.4	690.1	1 643.9	70.7	692.5	320.8	94	90
1966 ASM----	(NA)	(NA)	(NA)	62.5	463.5	47.6	104.9	319.7	963.2	724.4	1 661.8	70.6	(NA)	297.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	62.3	432.3	48.0	103.6	304.0	846.2	647.7	1 480.1	54.6	(NA)	264.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	59.7	400.8	45.5	97.3	279.5	763.3	592.8	1 344.2	37.4	562.6	240.1	(NA)	(NA)
1963 Census--	504	573	323	57.6	371.0	44.0	92.5	257.5	695.3	527.9	1 218.2	31.4	533.1	222.2	92	90
INDUSTRY 3462, IRON AND STEEL FORGINGS																
1977 Census--	312	358	231	39.1	641.5	31.0	60.8	474.8	1 301.4	1 505.4	2 795.7	126.7	(NA)	452.7	92	84
1976 ASM----	(NA)	(NA)	(NA)	37.6	537.2	30.4	57.0	400.8	1 126.8	1 228.8	2 353.5	118.7	810.8	390.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	36.3	490.8	29.4	56.8	371.1	1 046.1	1 165.7	2 198.7	77.5	687.6	353.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	39.4	503.5	32.4	65.1	392.7	995.3	1 144.6	2 105.3	54.7	659.2	382.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	38.2	460.6	30.8	63.4	359.0	822.3	918.9	1 720.2	38.2	599.3	300.0	(NA)	(NA)
1972 Census--	252	280	180	34.3	387.2	27.8	55.2	299.5	661.8	761.8	1 416.1	28.1	573.2	219.4	92	68
1971 ASM----	(NA)	(NA)	(NA)	33.1	335.1	26.6	49.9	254.0	548.8	613.2	1 162.2	24.6	500.9	189.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	35.9	350.1	28.7	56.3	264.6	555.5	624.4	1 186.4	36.5	496.0	180.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	40.4	378.6	32.8	67.3	290.4	658.7	740.9	1 395.2	37.9	498.7	215.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	39.3	352.9	31.7	64.8	269.6	607.5	675.9	1 288.8	37.4	485.9	206.1	(NA)	(NA)
1967 Census--	248	272	189	41.2	345.9	33.4	67.2	265.6	607.4	657.2	1 261.6	45.0	454.8	200.1	90	72
1966 ASM----	(NA)	(NA)	(NA)	41.3	346.3	33.4	70.6	269.4	594.9	687.0	1 273.1	34.6	(NA)	210.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	39.1	307.3	31.8	66.1	242.1	512.5	605.3	1 105.8	22.8	(NA)	192.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	36.6	276.3	29.5	60.2	214.4	440.5	531.9	961.2	34.1	347.8	165.8	(NA)	(NA)
1963 Census--	248	272	189	36.3	259.8	29.2	58.3	198.3	395.3	470.9	868.9	17.5	325.4	125.0	89	69
INDUSTRY 3463, NONFERROUS FORGINGS																
1977 Census--	43	47	31	5.4	93.7	4.2	8.2	64.8	240.7	234.9	456.7	12.2	(NA)	123.8	87	67
1976 ASM----	(NA)	(NA)	(NA)	5.2	84.1	3.8	7.2	57.1	205.8	191.6	401.3	10.5	158.1	100.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	6.1	86.9	4.5	9.0	60.6	193.0	185.7	386.2	13.8	153.5	104.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	6.4	88.2	5.0	10.7	64.4	202.0	178.6	354.4	7.1	138.3	114.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	6.1	74.6	4.6	9.8	54.0	141.2	154.8	283.0	9.0	126.5	81.4	(NA)	(NA)
1972 Census--	40	46	33	5.8	63.7	4.5	9.0	45.4	104.0	118.9	222.5	7.0	121.0	60.0	84	63
1971 ASM----	(NA)	(NA)	(NA)	6.3	60.7	4.5	8.7	40.6	116.5	123.5	220.8	4.7	80.9	62.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	7.1	68.4	5.2	10.9	46.6	101.7	137.5	237.3	5.1	121.6	81.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	9.9	95.4	7.2	15.2	63.7	151.5	182.3	329.3	14.8	189.1	89.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	9.3	84.6	6.8	14.6	57.6	143.0	170.7	310.5	22.5	181.3	79.3	(NA)	(NA)
1967 Census--	37	41	31	10.1	87.5	7.4	16.5	61.4	154.4	178.0	333.1	32.4	164.6	72.2	67	54
1966 ASM----	(NA)	(NA)	(NA)	9.6	77.8	7.3	16.1	56.5	145.6	178.1	311.4	16.5	(NA)	68.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	7.6	59.8	5.6	12.4	42.1	105.4	124.7	220.6	13.0	(NA)	49.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	7.2	56.9	5.4	12.0	40.0	88.5	110.5	196.1	13.1	97.2	38.1	(NA)	(NA)
1963 Census--	32	34	19	6.3	47.6	4.6	10.1	32.5	71.4	93.4	165.1	4.7	80.8	34.3	69	55

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3465, AUTOMOTIVE STAMPINGS[3]																
1977 Census--	495	591	432	132.4	2 446.0	112.5	236.8	1 956.6	4 654.5	5 130.8	9 739.2	292.2	(NA)	948.3	92	91
1976 ASM----	(NA)	(NA)	(NA)	123.1	2 024.4	104.1	213.5	1 601.5	3 934.8	4 200.5	8 070.5	176.1	3 337.4	861.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	107.4	1 526.8	90.0	173.0	1 178.6	2 872.4	3 247.0	6 116.2	215.5	3 319.1	608.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	121.7	1 622.6	102.1	202.1	1 264.6	3 011.6	3 122.6	6 103.0	225.5	3 123.7	734.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	135.4	1 743.7	114.1	242.7	1 385.0	3 141.3	2 983.7	6 085.9	171.5	2 733.8	585.6	(NA)	(NA)
1972 Census--	388	453	364	123.3	1 485.4	103.0	217.5	1 174.6	2 663.8	2 624.5	5 286.0	117.5	2 611.4	447.0	92	92
INDUSTRY 3466, CROWNS AND CLOSURES[3]																
1977 Census--	42	56	43	7.9	104.8	6.5	12.6	80.2	265.4	283.2	536.9	17.1	(NA)	121.0	95	86
1976 ASM----	(NA)	(NA)	(NA)	7.6	96.7	6.3	13.0	75.2	239.0	290.3	522.4	10.7	151.2	95.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	7.5	88.3	6.1	12.4	67.3	218.0	265.6	479.9	13.3	153.6	93.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	8.1	83.8	6.7	13.5	63.6	211.9	228.2	431.5	10.5	142.7	101.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	7.3	72.9	5.9	11.8	54.4	169.7	187.1	355.2	7.8	142.3	71.1	(NA)	(NA)
1972 Census--	42	53	48	8.1	74.1	6.7	13.4	55.1	166.7	180.9	343.5	8.3	139.4	62.6	88	83
INDUSTRY 3469, METAL STAMPINGS, N.E.C.[3]																
1977 Census--	2 544	2 663	1 138	103.2	1 225.4	82.0	161.2	842.5	2 451.5	2 318.0	4 735.7	154.7	(NA)	715.7	88	88
1976 ASM----	(NA)	(NA)	(NA)	91.9	1 045.6	72.7	142.1	711.2	2 047.7	1 892.2	3 902.1	114.0	1 198.0	596.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	83.3	884.5	64.3	123.0	586.8	1 709.0	1 503.4	3 249.6	95.0	1 098.2	507.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	101.1	981.2	81.2	159.0	684.8	1 935.6	1 700.8	3 596.8	123.5	1 056.1	604.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	101.9	917.0	83.4	165.5	655.8	1 696.7	1 436.5	3 097.5	93.4	1 058.1	483.3	(NA)	(NA)
1972 Census--	2 277	2 356	982	92.0	781.0	74.2	146.5	554.8	1 461.0	1 247.9	2 688.8	76.7	984.1	382.3	86	85
INDUSTRY 3471, PLATING AND POLISHING																
1977 Census--	3 344	3 447	904	61.2	634.8	51.2	101.3	446.1	1 181.8	674.1	1 848.5	73.2	(NA)	128.3	(8)	(8)
1976 ASM----	(NA)	(NA)	(NA)	58.5	545.8	49.2	94.6	384.1	1 092.1	524.9	1 610.0	70.6	576.0	109.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	51.2	467.0	42.2	81.6	318.1	861.1	443.7	1 319.0	47.8	524.4	89.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	55.8	477.3	46.4	89.0	333.9	949.5	386.9	1 332.8	51.1	493.0	83.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	60.9	478.4	50.5	99.2	347.5	880.9	384.1	1 263.7	39.5	537.5	72.0	(NA)	(NA)
1972 Census--	3 180	3 264	825	54.6	403.1	45.2	89.2	289.5	741.2	294.8	1 034.5	40.2	488.1	51.3	(8)	(8)
1971 ASM----	(NA)	(NA)	(NA)	52.9	364.3	42.7	85.1	262.6	669.3	264.9	934.9	31.1	407.1	48.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	57.7	372.9	46.4	93.8	270.9	691.2	275.4	964.3	34.3	424.2	50.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	62.9	399.7	51.8	101.2	294.4	738.4	282.4	1 020.7	47.0	395.8	53.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	59.2	363.8	49.4	97.6	270.6	642.6	251.9	892.5	45.0	351.5	47.7	(NA)	(NA)
1967 Census--	6 170	3 241	855	55.1	323.2	46.8	92.5	239.1	574.8	218.1	791.1	33.1	307.3	36.9	(8)	(8)
1966 ASM----	(NA)	(NA)	(NA)	51.1	296.2	43.4	91.4	219.5	509.9	199.5	719.8	40.2	(NA)	33.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	48.0	261.9	40.5	83.3	193.7	444.6	173.2	630.9	26.8	(NA)	26.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	45.4	239.1	37.8	75.6	177.5	395.4	165.8	559.6	24.1	206.5	24.4	(NA)	(NA)
1963 Census--	2 968	3 023	677	45.0	223.5	37.7	74.8	169.6	370.2	148.3	517.6	20.0	191.7	22.1	(8)	(8)

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3479, METAL COATING AND ALLIED SERVICES															
1977 Census--	1 556	1 648	469	32.3	373.7	25.9	52.2	260.2	781.1	831.7	1 607.7	47.8	(NA)	159.0	([8])	([8])
1976 ASM----	(NA)	(NA)	(NA)	31.9	356.6	25.3	51.1	260.0	726.7	583.1	1 490.7	39.2	466.3	130.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	30.3	318.7	23.8	48.0	230.3	579.7	649.5	1 065.5	56.4	435.1	99.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	33.5	302.9	26.6	52.9	219.1	561.8	607.4	973.1	44.8	368.7	122.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	30.4	253.8	24.9	51.0	182.9	428.1	459.7	897.6	26.3	342.2	83.1	(NA)	(NA)
1972 Census--	1 427	1 497	372	27.6	221.1	22.5	43.5	155.8	379.2	328.7	701.8	24.0	270.0	64.8	([8])	([8])
1971 ASM----	(NA)	(NA)	(NA)	22.3	178.3	18.3	36.3	123.3	294.4	251.9	550.0	18.0	215.2	53.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	23.6	176.8	19.5	39.0	123.5	295.0	235.6	527.1	21.2	212.5	54.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	28.1	166.2	24.0	46.5	125.3	314.7	197.9	518.6	18.5	186.7	40.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	25.6	162.7	22.0	44.2	120.9	289.1	182.9	472.1	16.3	165.9	39.5	(NA)	(NA)
1967 Census--	1 393	1 443	349	26.2	158.0	22.2	44.9	116.9	289.6	185.4	471.3	22.0	159.1	36.7	([8])	([8])
1966 ASM----	(NA)	(NA)	(NA)	25.2	145.0	21.1	42.3	103.8	270.6	201.1	469.1	17.9	(NA)	37.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	21.1	119.5	17.8	35.4	86.0	214.6	185.2	399.2	13.0	(NA)	34.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	22.0	118.5	18.3	37.9	87.1	223.5	141.6	361.1	10.4	116.6	27.3	(NA)	(NA)
1963 Census--	1 227	1 258	276	20.7	107.1	17.1	35.0	79.1	184.5	137.2	322.1	8.7	105.9	27.4	([8])	([8])

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3451, SCREW MACHINE PRODUCTS										
1977 Census--	12 599	(NA)	82	2 065	5.32	43	74	(NA)	23 386	53	13.78
1976 ASM----	11 411	14 465	81	2 027	4.82	42	74	40	21 041	54	12.71
1975 ASM----	10 708	14 498	80	1 981	4.74	39	72	44	19 639	54	12.23
1974 ASM----	10 196	11 855	83	2 094	4.27	39	70	36	20 287	50	11.66
1973 ASM----	9 430	10 930	82	2 123	3.87	40	71	36	18 323	51	10.39
1972 Census--	8 822	11 338	81	2 054	3.78	39	73	43	16 012	55	9.50
1971 ASM----	8 140	11 687	80	2 037	3.44	40	74	47	14 468	56	8.78
1970 ASM----	7 891	10 088	82	2 056	3.27	39	73	43	13 995	56	8.29
1969 ASM----	7 931	9 731	84	2 126	3.31	37	71	41	14 496	54	8.10
1968 ASM----	7 463	8 860	84	2 104	3.13	37	71	40	13 596	54	7.68
1967 Census--	7 124	8 563	84	2 125	2.93	37	71	41	13 091	54	7.27
1966 ASM----	6 702	(NA)	85	2 170	2.76	41	73	(NA)	12 047	55	6.52
1965 ASM----	6 269	(NA)	83	2 185	2.60	41	76	(NA)	10 608	59	5.82
1964 ASM----	6 225	7 807	83	2 178	2.59	42	77	44	10 118	61	5.58
1963 Census--	5 777	7 032	83	2 087	2.48	39	75	44	9 728	59	5.58
	INDUSTRY 3452, BOLTS, NUTS, RIVETS, AND WASHERS										
1977 Census--	14 157	(NA)	74	2 058	6.26	45	71	(NA)	30 211	46	19.60
1976 ASM----	12 836	19 673	74	1 997	5.82	44	70	39	28 173	45	18.93
1975 ASM----	11 616	19 547	72	1 972	5.41	43	68	42	26 021	44	18.22
1974 ASM----	11 340	16 084	77	2 064	5.02	43	68	35	26 857	42	16.79
1973 ASM----	10 612	15 490	77	2 141	4.45	41	67	38	23 575	45	14.24
1972 Census--	9 828	15 377	76	2 100	4.22	42	71	45	19 913	49	12.38
1971 ASM----	8 849	14 533	75	2 027	3.85	40	71	50	17 005	52	11.15
1970 ASM----	8 511	12 671	75	2 036	3.69	40	73	47	15 797	53	10.32
1969 ASM----	8 374	11 307	76	2 130	3.59	40	71	41	16 355	51	10.07
1968 ASM----	7 860	10 860	76	2 122	3.32	40	71	41	15 631	50	9.57
1967 Census--	7 412	10 305	77	2 078	3.20	41	72	42	14 574	50	9.02
1966 ASM----	7 416	(NA)	76	2 203	3.04	43	71	(NA)	15 411	48	9.18
1965 ASM----	6 939	(NA)	77	2 158	2.93	43	72	(NA)	13 582	51	8.16
1964 ASM----	6 713	9 423	76	2 138	2.87	44	73	41	12 785	52	7.84
1963 Census--	6 440	9 255	76	2 102	2.78	43	73	43	12 071	53	7.51
	INDUSTRY 3462, IRON AND STEEL FORGINGS										
1977 Census--	16 386	(NA)	79	1 961	7.81	53	76	(NA)	33 244	49	21.40
1976 ASM----	14 287	21 563	80	1 875	7.03	52	75	34	29 968	47	19.76
1975 ASM----	13 520	18 942	80	1 931	6.53	53	75	31	28 818	46	18.41
1974 ASM----	12 779	16 730	82	2 009	6.03	54	78	31	25 261	50	15.28
1973 ASM----	12 057	15 688	80	2 058	5.66	53	80	34	21 526	56	12.97
1972 Census--	11 288	16 711	81	1 985	5.42	53	81	40	19 294	58	11.98
1971 ASM----	10 123	15 132	80	1 875	5.09	52	81	43	16 580	61	10.99
1970 ASM----	9 752	13 816	79	1 961	4.69	52	82	41	15 473	63	9.86
1969 ASM----	9 371	12 344	81	2 051	4.31	53	80	35	16 304	57	9.78
1968 ASM----	8 979	12 363	80	2 044	4.16	52	79	37	15 458	58	9.37
1967 Census--	8 395	11 038	81	2 011	3.95	52	79	36	14 742	56	9.03
1966 ASM----	8 364	(NA)	80	2 113	3.81	53	81	(NA)	14 404	58	8.42
1965 ASM----	7 859	(NA)	81	2 078	3.66	54	82	(NA)	13 107	59	7.75
1964 ASM----	7 549	9 502	80	2 040	3.56	55	84	36	12 035	62	7.31
1963 Census--	7 157	8 964	80	1 996	3.40	54	84	37	10 889	65	6.78
	INDUSTRY 3463, NONFERROUS FORGINGS										
1977 Census--	17 189	(NA)	76	1 980	7.86	51	71	(NA)	44 185	38	29.24
1976 ASM----	16 173	30 403	73	1 894	7.93	47	68	39	39 576	40	28.58
1975 ASM----	14 245	25 163	73	2 000	6.73	48	70	39	31 639	45	21.44
1974 ASM----	13 781	21 609	78	2 140	6.01	50	75	39	31 562	43	18.87
1973 ASM----	12 229	20 737	75	2 130	5.51	54	81	44	23 147	52	14.40
1972 Census--	10 982	20 862	77	2 000	5.04	53	82	54	17 931	61	11.55
1971 ASM----	9 634	14 428	71	1 933	4.66	55	83	41	18 492	52	13.39
1970 ASM----	9 633	17 126	73	2 096	4.27	57	86	51	14 323	67	9.33
1969 ASM----	9 636	19 101	72	2 111	4.19	55	84	57	15 303	62	9.96
1968 ASM----	9 096	19 494	73	2 147	3.94	54	82	58	15 376	59	9.79
1967 Census--	8 563	16 297	73	2 229	3.72	53	79	49	15 287	56	9.35
1966 ASM----	8 104	(NA)	76	2 205	3.50	57	82	(NA)	15 166	53	9.04
1965 ASM----	7 868	(NA)	73	2 214	3.39	56	83	(NA)	13 868	56	8.50
1964 ASM----	7 902	13 500	75	2 222	3.33	56	85	49	12 291	64	7.37
1963 Census--	7 555	12 825	73	2 195	3.21	56	85	48	11 333	66	7.06

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3465, AUTOMOTIVE STAMPINGS										
1977 Census--	18 480	(NA)	84	2 105	8.26	52	77	(NA)	35 167	52	19.65
1976 ASM----	16 445	27 111	84	2 050	7.50	52	77	41	31 964	51	18.42
1975 ASM----	14 216	30 904	83	1 922	6.81	53	78	54	26 744	53	16.60
1974 ASM----	13 332	25 667	83	1 979	6.25	51	77	51	24 746	53	14.90
1973 ASM----	12 878	20 190	84	2 127	5.70	49	77	44	23 200	55	12.94
1972 Census--	12 047	21 179	83	2 111	5.40	49	77	49	21 604	55	12.24
	INDUSTRY 3466, CROWNS AND CLOSURES										
1977 Census--	13 317	(NA)	82	1 947	6.35	52	72	(NA)	33 709	39	21.04
1976 ASM----	12 723	19 894	82	2 063	5.78	55	74	28	31 447	40	18.38
1975 ASM----	11 773	20 480	81	2 032	5.42	55	73	32	29 066	40	17.58
1974 ASM----	10 345	17 617	82	2 014	4.71	52	72	33	26 160	39	15.69
1973 ASM----	9 986	19 493	80	2 000	4.61	52	73	40	23 246	42	14.38
1972 Census--	9 148	17 209	82	2 000	4.11	52	74	40	20 580	44	12.44
	INDUSTRY 3469, METAL STAMPINGS, N.E.C.										
1977 Census--	11 877	(NA)	79	1 965	5.22	48	74	(NA)	23 761	49	15.20
1976 ASM----	11 377	13 035	79	1 954	5.00	48	75	30	22 281	51	14.41
1975 ASM----	10 618	13 183	77	1 912	4.77	46	73	33	20 516	51	13.89
1974 ASM----	9 705	10 446	80	1 958	4.30	47	74	29	19 145	50	12.17
1973 ASM----	8 999	10 383	81	1 984	3.96	46	75	34	16 650	54	10.25
1972 Census--	8 489	10 696	80	1 974	3.78	46	75	38	15 880	53	9.97
	INDUSTRY 3471, PLATING AND POLISHING										
1977 Census--	10 371	(NA)	83	1 979	4.40	36	70	(NA)	19 308	53	11.66
1976 ASM----	9 329	9 846	84	1 922	4.06	32	66	35	18 668	49	11.54
1975 ASM----	9 121	10 242	82	1 933	3.89	33	69	39	16 818	54	10.55
1974 ASM----	8 553	8 835	83	1 918	3.75	29	64	36	17 016	50	10.66
1973 ASM----	7 855	8 825	82	1 964	3.50	30	68	42	14 464	54	8.88
1972 Census--	7 382	8 939	82	1 973	3.24	28	67	47	13 575	54	8.30
1971 ASM----	6 886	7 695	80	1 992	3.08	28	67	43	12 652	54	7.86
1970 ASM----	6 462	7 351	80	2 021	2.88	28	67	43	11 979	53	7.36
1969 ASM----	6 354	6 292	82	1 953	2.90	27	66	38	11 739	54	7.29
1968 ASM----	6 145	5 937	83	1 975	2.77	28	68	39	10 854	56	6.58
1967 Census--	5 865	5 577	84	1 976	2.58	27	68	38	10 431	56	6.21
1966 ASM----	5 796	(NA)	84	2 105	2.40	27	68	(NA)	9 978	58	5.57
1965 ASM----	5 456	(NA)	84	2 056	2.32	27	68	(NA)	9 262	58	5.33
1964 ASM----	5 266	4 548	83	2 000	2.34	29	72	36	8 709	60	5.23
1963 Census--	4 966	4 260	83	1 984	2.26	28	71	37	8 226	60	4.94

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3479, METAL COATING AND ALLIED SERVICES										
1977 Census--	11 578	(NA)	80	2 013	4.98	51	74	(NA)	24 203	47	14.96
1976 ASM----	11 178	14 617	79	2 019	5.08	39	63	31	22 780	49	14.22
1975 ASM----	10 518	14 359	78	2 016	4.79	60	90	40	19 132	54	12.07
1974 ASM----	9 041	11 005	79	1 988	4.14	62	93	37	16 770	53	10.82
1973 ASM----	8 348	11 256	81	2 048	3.58	51	79	38	14 082	59	8.39
1972 Census--	11 634	9 782	81	1 933	3.58	46	92	38	13 739	84	8.71
1971 ASM----	7 995	9 650	82	1 983	3.39	45	78	39	13 201	60	8.11
1970 ASM----	7 491	9 004	82	2 000	3.16	44	78	40	12 500	59	7.56
1969 ASM----	5 914	6 644	85	1 937	2.69	38	70	36	11 199	52	6.76
1968 ASM----	5 355	6 480	85	2 009	2.73	38	73	35	11 292	56	6.54
1967 Census--	6 030	6 072	84	2 022	2.60	39	72	33	11 053	54	6.44
1966 ASM----	5 753	(NA)	83	2 004	2.45	42	73	(NA)	10 738	53	6.39
1965 ASM----	5 663	(NA)	84	1 988	2.42	46	76	(NA)	10 170	55	6.06
1964 ASM----	5 386	5 300	83	2 071	2.29	39	72	32	10 159	53	5.89
1963 Census--	5 173	5 115	82	2 046	2.26	42	75	32	8 913	58	5.27

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3451, SCREW MACHINE PRODUCTS													
United States	-	**1 770**	**654**	**43.8**	**551.6**	**38.0**	**74.3**	**395.5**	**1 023.9**	**762.2**	**1 771.7**	**71.9**	**40.5**	**648.5**
New England Division:													
Massachusetts	-	87	32	2.1	24.3	1.8	3.5	17.6	42.3	27.8	69.4	2.3	2.2	29.3
Rhode Island	E2	36	5	0.5	5.6	0.4	0.8	3.8	9.6	5.8	15.2	0.8	(NA)	(D)
Connecticut	E1	167	57	3.6	39.4	3.0	6.1	28.1	64.8	46.8	110.9	4.5	3.2	43.8
Middle Atlantic Division:														
New York	E1	116	40	2.6	32.1	2.1	4.4	23.2	60.3	48.1	108.1	3.6	2.9	47.4
New Jersey	E1	104	27	1.8	22.1	1.5	3.1	16.4	38.0	21.7	59.3	2.1	1.8	27.0
Pennsylvania	-	68	27	1.9	22.7	1.5	2.9	16.0	45.6	29.9	74.4	10.3	1.4	19.6
East North Central Division:														
Ohio	-	175	85	5.5	66.0	4.6	9.3	48.0	135.4	103.3	235.5	7.2	4.7	70.7
Indiana	-	65	30	2.2	27.4	1.8	3.8	20.9	46.6	31.5	77.5	2.6	(NA)	(D)
Illinois	-	231	83	6.9	90.4	5.5	11.8	64.2	156.8	106.0	260.9	8.0	6.6	109.9
Michigan	-	275	115	7.3	104.1	6.0	12.7	73.7	209.2	205.0	410.5	15.3	6.3	120.7
Wisconsin	-	64	24	1.4	19.0	1.2	2.4	13.0	35.3	21.2	56.0	3.8	(NA)	(D)
West North Central Division:														
Minnesota	-	32	17	1.1	13.9	0.9	1.9	10.8	22.8	14.1	36.9	1.7	(NA)	(D)
Iowa	-	12	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	33	17	1.0	12.7	0.7	1.5	8.5	21.4	13.6	35.3	0.5	(NA)	(D)
Nebraska	-	6	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	26	9	0.4	4.4	0.3	0.6	3.0	8.3	4.4	12.6	0.3	0.3	4.7
East South Central Division:														
Tennessee	-	5	5	0.3	3.1	0.3	0.6	2.6	6.0	3.1	9.0	(D)	0.4	5.0
West South Central Division:														
Texas	E1	17	9	0.4	5.2	0.3	0.7	3.5	11.6	8.6	19.9	0.6	0.3	4.1
Pacific Division:														
California	E1	174	43	2.8	34.7	2.3	4.7	24.5	62.4	39.0	100.8	3.6	3.0	52.8
INDUSTRY 3452, BOLTS, NUTS, RIVETS, AND WASHERS														
United States	-	**857**	**448**	**60.9**	**862.4**	**45.6**	**93.9**	**587.6**	**1 840.3**	**1 510.1**	**3 319.5**	**112.3**	**60.1**	**1 196.8**
New England Division:														
New Hampshire	-	5	3	0.3	3.7	0.2	0.4	2.1	7.6	6.2	14.1	(D)	(NA)	(D)
Massachusetts	-	29	16	2.9	36.6	2.1	4.2	24.3	67.7	54.6	119.7	3.4	2.4	39.8
Rhode Island	-	12	8	0.8	9.4	0.7	1.2	6.5	15.1	24.2	39.3	1.2	(NA)	(D)
Connecticut	-	56	26	3.5	49.3	2.4	5.2	27.8	110.1	70.8	179.8	5.3	3.7	75.4
Middle Atlantic Division:														
New York	E1	51	20	2.5	30.9	1.9	4.0	20.3	57.2	51.0	106.7	6.0	2.7	50.8
New Jersey	-	30	18	2.3	35.3	1.4	2.9	20.2	71.7	50.3	119.7	2.5	2.8	60.2
Pennsylvania	-	52	33	7.2	103.2	5.7	11.1	78.4	212.1	178.5	380.6	16.5	5.9	101.9
East North Central Division:														
Ohio	-	83	51	7.0	105.5	5.2	10.4	70.9	223.9	197.9	427.4	11.8	9.3	198.1
Indiana	-	23	14	1.5	19.2	1.1	2.2	13.4	45.1	40.7	90.7	2.5	1.0	25.1
Illinois	-	143	72	11.6	174.1	8.8	18.7	122.7	346.0	303.0	641.3	23.0	12.5	248.2
Michigan	-	104	54	5.3	85.1	4.0	8.3	59.8	202.8	209.9	409.8	13.9	5.2	129.6
Wisconsin	-	18	9	1.1	14.3	0.8	1.7	9.6	34.6	19.5	53.8	2.3	0.9	20.9
West North Central Division:														
Minnesota	-	7	6	0.4	5.7	0.3	0.6	3.7	16.4	9.0	25.0	1.1	(NA)	(D)
Iowa	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	E2	10	5	0.2	2.6	0.2	0.3	1.6	5.6	5.0	10.5	0.5	(NA)	(D)
South Atlantic Division:														
Virginia	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	5	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	E1	14	3	0.3	3.0	0.2	0.4	1.9	7.8	6.1	13.8	0.2	0.6	1.7
East South Central Division:														
Kentucky	-	6	6	0.8	9.3	0.6	1.3	6.6	27.8	28.1	55.3	(D)	(NA)	(D)
Tennessee	-	8	4	0.5	4.4	0.4	0.8	3.4	12.1	10.2	22.0	(D)	0.4	7.5
Alabama	-	12	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	8	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	E5	4	3	0.2	1.8	0.1	0.2	1.3	3.3	3.9	7.3	(D)	(NA)	(NA)
Texas	E2	30	14	1.4	17.1	1.0	2.0	10.8	45.3	32.5	78.2	2.1	0.7	11.7
Pacific Division:														
California	-	99	52	7.7	109.2	5.8	12.4	74.1	223.4	117.3	330.0	11.5	6.2	120.7

See footnotes at end of table

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3462, IRON AND STEEL FORGINGS														
United States	-	**358**	**231**	**39.1**	**641.5**	**31.0**	**60.8**	**474.8**	**1 301.4**	**1 505.4**	**2 795.7**	**126.7**	**34.3**	**661.8**
New England Division:														
Maine	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	12	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	8	6	0.5	6.7	0.5	0.8	4.6	14.9	13.7	28.4	0.4	(NA)	(D)
Middle Atlantic Division:														
New York	E1	15	11	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	E1	11	3	0.4	5.1	0.3	0.6	3.4	8.5	9.2	17.8	0.5	0.3	5.0
Pennsylvania	-	29	21	3.7	53.9	2.8	5.4	36.7	111.1	108.0	216.7	8.3	(NA)	(D)
East North Central Division:														
Ohio	-	54	44	7.8	135.5	6.4	12.7	104.7	258.3	369.0	628.1	25.4	(NA)	(D)
Indiana	-	9	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	45	31	5.9	97.2	4.7	9.3	72.5	212.2	211.5	422.5	12.6	(NA)	(D)
Michigan	-	44	36	5.3	99.0	4.3	9.0	76.1	188.6	222.0	412.3	20.0	(NA)	(D)
Wisconsin	-	13	11	5.5	96.6	4.3	7.8	73.0	144.0	174.5	321.1	12.8	(NA)	(D)
West North Central Division:														
Iowa	E1	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	7	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	E1	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	-	32	17	2.4	36.3	1.9	3.9	25.2	112.6	108.8	216.6	21.5	1.3	27.9
Pacific Division:														
Oregon	-	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	33	16	1.5	25.8	1.0	2.2	16.4	62.5	71.2	129.8	8.3	(NA)	(D)
INDUSTRY 3463, NONFERROUS FORGINGS														
United States	-	**47**	**31**	**5.4**	**93.7**	**4.2**	**8.2**	**64.8**	**240.7**	**234.9**	**456.7**	**12.2**	**5.8**	**104.0**
New England Division:														
Massachusetts	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	4	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
Pennsylvania	-	4	4	0.7	10.7	0.6	1.0	8.5	21.1	27.6	47.5	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	4	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	4	4	0.2	2.7	0.2	0.3	1.8	5.0	4.2	9.3	0.1	(NA)	(D)
Mountain Division:														
Nevada	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	15	10	1.1	17.2	0.8	1.7	11.9	45.1	52.7	95.2	(D)	(NA)	(D)
INDUSTRY 3465, AUTOMOTIVE STAMPINGS														
United States	-	**591**	**432**	**132.4**	**2 446.0**	**112.5**	**236.8**	**1 956.6**	**4 654.5**	**5 130.8**	**9 739.2**	**292.2**	**123.3**	**2 663.8**
New England Division:														
Massachusetts	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	7	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	13	11	6.0	132.2	4.8	10.6	104.4	225.6	207.7	439.2	5.1	(NA)	(D)
East North Central Division:														
Ohio	-	109	81	32.0	637.6	27.2	58.9	517.9	1 174.2	1 294.4	2 451.8	92.2	28.9	644.7
Indiana	-	32	28	9.6	181.6	8.1	17.4	148.5	354.5	411.6	762.4	25.8	8.9	186.8
Illinois	-	30	18	9.2	200.0	7.9	17.5	162.8	382.6	396.3	768.6	18.5	9.5	210.3
Michigan	-	298	221	57.3	1 031.6	48.9	100.3	813.7	1 947.6	2 234.9	4 176.2	104.0	52.3	1 157.1
Wisconsin	-	6	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	8.3
West North Central Division:														
Minnesota	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	E5	3	3	0.2	3.2	0.2	0.4	2.3	6.1	8.4	14.4	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Carolina	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	8	8	2.1	18.2	1.9	3.9	15.7	36.9	45.2	83.1	2.6	(NA)	(D)
Florida	-	4	4	0.9	4.5	0.7	1.3	3.0	17.3	19.8	36.4	(D)	(NA)	(D)
East South Central Division:														
Kentucky	E4	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	5	4	1.4	13.7	1.1	2.2	10.1	39.1	48.8	86.6	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	E1	8	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	23	15	1.5	20.3	1.3	2.5	16.0	49.6	33.6	81.6	2.1	0.5	8.6

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3466, CROWNS AND CLOSURES														
United States	-	**56**	**43**	**7.9**	**104.8**	**6.5**	**12.6**	**80.2**	**265.4**	**283.2**	**538.9**	**17.1**	**8.1**	**166.7**
New England Division:														
Connecticut	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	4	4	0.4	4.7	0.3	0.6	3.5	9.1	11.7	20.4	(D)	(NA)	(D)
New Jersey	-	5	4	0.8	10.9	0.6	1.2	8.3	23.1	26.4	49.5	(D)	0.9	19.0
Pennsylvania	-	7	6	1.3	18.5	1.1	2.1	14.5	53.0	62.5	115.5	(D)	1.3	29.5
East North Central Division:														
Indiana	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.8	(NA)	(D)
Illinois	-	12	9	1.8	26.0	1.5	2.9	20.0	73.2	69.5	138.3	4.6	2.3	46.4
Michigan	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
West Virginia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	8	6	0.7	9.3	0.6	1.1	7.2	25.3	25.0	50.6	1.6	0.5	14.0
INDUSTRY 3469, METAL STAMPINGS, N.E.C.														
United States	-	**2 663**	**1 138**	**103.2**	**1 225.4**	**82.0**	**161.2**	**842.5**	**2 451.5**	**2 318.0**	**4 735.7**	**154.7**	**92.0**	**1 461.0**
New England Division:														
New Hampshire	-	14	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	125	58	4.3	50.1	3.5	6.9	33.8	97.8	78.2	173.2	(D)	4.3	59.8
Rhode Island	-	40	15	0.8	9.1	0.7	1.4	6.2	16.9	14.7	31.4	(D)	(NA)	(D)
Connecticut	E1	130	64	5.2	61.3	4.1	8.6	44.3	117.0	101.6	216.1	12.2	3.3	52.2
Middle Atlantic Division:														
New York	E1	265	98	8.4	99.1	6.6	13.1	66.7	206.1	178.3	381.6	(D)	8.7	140.7
New Jersey	E1	166	69	5.7	69.5	4.5	9.0	48.1	128.9	120.9	247.8	8.6	5.3	78.2
Pennsylvania	-	113	49	4.5	54.3	3.5	6.9	37.9	111.1	110.2	219.1	9.4	3.5	58.4
East North Central Division:														
Ohio	-	233	124	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	12.5	196.4
Indiana	-	71	36	3.4	39.5	2.6	5.1	27.0	75.1	72.7	146.5	3.7	3.3	46.5
Illinois	-	338	152	14.0	190.3	11.3	22.5	131.5	383.2	396.8	773.3	24.1	13.0	244.9
Michigan	E1	159	59	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	4.0	68.1
Wisconsin	-	97	57	9.0	104.8	6.5	12.9	66.5	194.3	215.2	412.4	13.2	10.2	155.3
West North Central Division:														
Minnesota	E1	73	42	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	20	9	2.4	22.9	1.9	3.1	14.8	68.2	43.2	110.0	1.9	0.7	11.9
Missouri	-	40	20	1.9	22.9	1.5	2.9	16.4	39.1	42.8	82.4	(D)	1.9	29.6
Kansas	E3	8	6	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	12	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	E4	15	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	8	6	0.8	7.2	0.6	1.1	4.9	13.1	14.8	27.6	0.6	(NA)	(D)
North Carolina	E2	25	10	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	4	2	0.2	1.9	0.1	0.3	1.2	2.4	10.6	12.8	0.2	(NA)	(NA)
Georgia	-	25	9	1.2	9.7	1.1	2.0	7.8	22.8	24.9	47.5	2.0	(NA)	(D)
Florida	E2	43	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	30	17	2.0	21.1	1.7	3.3	15.2	38.6	37.6	76.3	2.2	1.8	24.4
Tennessee	-	32	15	1.8	16.9	1.6	3.1	13.1	45.2	65.3	109.8	5.0	1.3	15.7
Alabama	-	20	7	0.9	11.2	0.7	1.5	8.1	23.7	24.4	47.5	0.8	0.8	10.9
Mississippi	-	8	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	10.4
West South Central Division:														
Arkansas	-	7	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	16	6	0.3	3.0	0.2	0.5	1.9	5.8	5.6	11.4	0.6	(NA)	(D)
Texas	E2	60	20	1.3	14.4	1.0	2.0	9.9	28.8	21.8	50.2	(D)	0.7	9.7
Mountain Division:														
Colorado	E2	17	9	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Arizona	E1	15	5	0.4	4.0	0.3	0.7	3.1	9.0	5.8	14.4	0.1	(NA)	(NA)
Pacific Division:														
Washington	E3	22	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oregon	-	12	2	0.2	3.2	0.2	0.4	2.3	5.4	6.8	12.0	(D)	(NA)	(D)
California	E1	359	126	9.3	111.9	7.4	15.0	76.0	211.5	170.0	378.6	12.9	6.4	102.0
INDUSTRY 3471, PLATING AND POLISHING														
United States	E1	**3 447**	**904**	**61.2**	**834.8**	**51.2**	**101.3**	**446.1**	**1 181.8**	**674.1**	**1 848.5**	**73.2**	**54.6**	**741.2**
New England Division:														
Massachusetts	-	123	33	2.1	21.5	1.7	3.4	15.0	37.5	24.4	61.8	2.7	2.0	24.2
Rhode Island	E2	128	28	2.2	18.9	1.9	3.4	13.5	31.9	15.1	46.9	1.3	(NA)	(D)
Connecticut	-	101	33	2.1	23.7	1.7	3.4	15.4	45.5	23.8	69.2	2.2	2.2	32.7
Middle Atlantic Division:														
New York	E2	307	80	5.8	52.6	4.9	9.6	37.4	95.0	43.6	137.7	8.1	5.5	65.0
New Jersey	E1	154	32	1.9	20.9	1.5	3.0	13.7	42.7	52.7	93.4	2.0	1.8	26.6
Pennsylvania	-	141	37	2.1	23.3	1.7	3.3	15.5	41.1	27.9	68.7	2.5	1.9	24.5

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3471, PLATING AND POLISHING—Con.													
East North Central Division:													
Ohio	-	284	75	5.3	55.1	4.4	8.7	38.4	106.8	56.0	162.0	5.4	5.3	83.2
Indiana	E1	108	37	2.1	21.3	1.8	3.4	15.3	36.9	17.7	54.7	(D)	2.0	27.1
Illinois	E1	308	94	6.0	67.1	4.9	10.2	46.1	125.3	83.9	208.4	5.8	5.9	83.7
Michigan	-	305	99	6.9	78.1	5.9	11.5	56.7	162.3	109.7	270.7	7.7	6.2	90.8
Wisconsin	E1	87	20	1.5	13.7	1.2	2.4	9.8	22.8	10.7	33.4	1.4	1.2	17.0
West North Central Division:														
Minnesota	-	52	23	1.3	15.3	1.1	2.2	11.3	25.2	13.1	38.0	1.2	0.9	13.8
Iowa	E1	21	4	0.2	2.5	0.2	0.5	2.1	4.2	1.7	5.9	0.3	0.2	2.3
Missouri	E1	60	10	0.9	10.4	0.7	1.4	6.6	16.7	6.3	22.8	5.1	1.3	16.4
Kansas	-	16	4	0.2	2.1	0.2	0.3	1.6	4.1	1.4	5.5	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	E2	25	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	3.0
Virginia	E3	19	5	0.3	2.5	0.2	0.4	1.8	4.6	2.0	6.6	0.1	(NA)	(D)
West Virginia	-	10	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	E4	45	10	1.0	9.4	0.8	1.5	6.2	17.7	7.8	25.5	0.7	(NA)	(D)
South Carolina	-	12	4	0.2	1.5	0.2	0.2	1.2	2.6	2.2	4.8	(D)	0.2	2.3
Georgia	-	23	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	4.8
Florida	E1	82	16	1.1	10.0	0.9	1.6	7.0	17.6	8.7	26.4	0.8	0.8	9.5
East South Central Division:														
Kentucky	E1	28	11	0.6	5.7	0.5	1.1	4.2	10.0	6.8	16.8	0.6	(NA)	(D)
Tennessee	-	46	16	1.6	14.1	1.4	3.0	11.9	24.2	19.3	43.5	2.8	0.8	8.5
Alabama	E1	23	10	0.4	3.5	0.3	0.6	2.4	6.4	3.3	9.6	0.9	(NA)	(D)
West South Central Division:														
Oklahoma	E2	30	7	0.3	3.4	0.3	0.6	2.3	5.6	2.2	7.8	0.3	0.2	3.3
Texas	E2	133	22	1.6	15.7	1.3	2.6	11.4	29.2	11.4	41.0	1.2	(NA)	(D)
Mountain Division:														
Colorado	E2	28	3	0.3	2.2	0.2	0.3	1.5	3.1	1.3	4.4	0.2	(NA)	(D)
Arizona	-	20	6	0.4	3.7	0.4	0.7	2.7	7.2	2.8	10.0	0.7	0.3	3.3
Pacific Division:														
Washington	E1	39	7	0.6	7.5	0.5	1.0	5.4	14.1	4.3	18.2	0.7	0.4	6.4
Oregon	E1	26	10	0.6	6.7	0.5	1.0	4.8	12.5	3.8	16.2	0.6	(NA)	(D)
California	E1	566	145	10.2	105.5	8.5	17.0	73.0	197.6	95.9	293.0	9.9	(NA)	(D)
INDUSTRY 3479, METAL COATING AND ALLIED SERVICES														
United States	-	**1 648**	**469**	**32.3**	**373.7**	**25.9**	**52.2**	**260.2**	**781.1**	**831.7**	**1 607.7**	**47.8**	**27.6**	**379.2**
New England Division:														
Massachusetts	E1	94	31	1.4	14.7	1.1	2.2	9.8	24.5	13.1	37.5	0.8	1.0	11.7
Rhode Island	E1	54	13	0.7	6.9	0.6	1.2	4.5	14.9	16.4	30.9	0.9	(NA)	(D)
Connecticut	-	45	12	0.9	9.8	0.7	1.4	6.4	20.9	10.6	31.4	1.9	0.3	4.7
Middle Atlantic Division:														
New York	E2	137	23	1.5	14.2	1.2	2.3	10.0	23.1	14.8	37.7	(D)	1.7	21.0
New Jersey	-	76	22	1.4	16.2	0.9	1.9	9.8	29.5	19.4	48.8	0.8	1.3	20.2
Pennsylvania	-	95	30	2.0	25.7	1.5	3.1	17.7	53.7	73.2	127.7	3.2	2.1	35.2
East North Central Division:														
Ohio	-	108	33	3.0	39.7	2.4	4.5	27.7	106.0	249.7	355.1	4.2	1.8	22.3
Indiana	-	37	15	1.7	24.5	1.4	2.9	18.5	65.5	54.5	118.2	(D)	1.1	22.3
Illinois	-	131	49	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.6	58.0
Michigan	E1	128	46	2.9	29.8	2.4	4.7	19.8	58.9	65.7	124.7	3.4	2.5	32.0
Wisconsin	-	31	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	6.3
West North Central Division:														
Minnesota	E1	35	14	0.8	6.8	0.7	1.3	4.9	13.3	6.5	19.7	1.0	0.4	6.0
Missouri	-	30	9	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	12.9
South Atlantic Division:														
Maryland	E3	14	5	0.3	3.8	0.3	0.5	2.6	6.4	5.6	12.0	0.3	0.4	6.6
North Carolina	E2	18	7	0.4	4.7	0.4	0.7	3.3	8.5	6.3	14.5	2.0	(NA)	(D)
South Carolina	-	11	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	E1	12	4	0.2	2.1	0.2	0.3	1.5	4.6	6.7	11.3	0.4	0.4	8.3
Florida	E1	32	5	0.4	4.4	0.3	0.6	3.4	8.6	9.2	17.6	0.2	0.3	3.9
East South Central Division:														
Kentucky	-	11	5	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	E1	15	4	0.2	2.2	0.2	0.4	1.6	3.2	3.0	6.2	0.2	(NA)	(NA)
Alabama	-	14	7	0.4	5.3	0.3	0.7	3.7	8.7	6.9	15.5	0.8	(NA)	(D)
West South Central Division:														
Louisiana	-	15	6	0.4	4.8	0.3	0.7	3.6	11.0	6.9	17.7	(D)	(NA)	(D)
Oklahoma	-	22	4	0.3	3.3	0.3	0.6	2.4	7.4	4.9	12.2	0.2	(NA)	(D)
Texas	-	112	40	3.2	37.3	2.7	5.8	29.0	82.4	49.8	130.9	6.3	2.5	39.4
Mountain Division:														
Colorado	-	14	5	0.2	2.4	0.2	0.4	1.5	5.0	2.5	7.4	0.2	(NA)	(NA)
Pacific Division:														
Oregon	E2	13	3	0.2	1.8	0.1	0.2	1.3	2.8	2.0	4.8	0.2	(NA)	(NA)
California	E1	263	57	3.6	40.1	2.9	5.8	27.0	75.4	53.0	128.8	3.3	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[6]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Screw machine products (SIC 3451)	Bolts, nuts, rivets, and washers (SIC 3452)	Iron and steel forgings (SIC 3462)	Nonferrous forgings (SIC 3463)	Automotive stampings (SIC 3465)	Crowns and closures (SIC 3466)	Metal stampings, n.e.c. (SIC 3469)	Plating and polishing (SIC 3471)	Metal coating and allied services (SIC 3479)
Primary product specialization ratio[1]	percent	96	94	92	87	92	95	88	(3)	(3)
Coverage ratio[2]	do	92	94	84	67	91	86	88	(3)	(3)
All establishments	number	1 770	857	358	47	591	56	2 663	3 447	1 648
With 1 to 19 employees	do	1 116	409	127	16	159	13	1 525	2 543	1 179
With 20 to 99 employees	do	585	288	132	14	249	19	906	831	417
With 100 employees or more	do	69	160	99	17	183	24	232	73	52
All employees, average for year	1,000	43.8	60.9	39.1	5.4	132.4	7.9	103.2	61.2	32.3
Payroll for year, all employees	mil. dol.	551.6	862.4	641.5	93.7	2 446.0	104.8	1 225.4	634.8	373.7
Production workers:										
Average for year	1,000	36.0	45.6	31.0	4.2	112.5	6.5	82.0	51.2	25.9
March	do	35.0	44.9	30.3	4.0	109.5	6.7	80.6	49.4	25.0
May	do	35.6	45.3	30.6	4.1	113.4	6.8	81.6	50.7	25.8
August	do	35.9	45.8	31.3	4.2	108.9	6.5	82.4	51.6	26.2
November	do	37.5	46.4	31.8	4.3	118.2	5.9	83.0	52.7	26.8
Hours	millions	74.3	93.9	60.8	8.2	236.8	12.6	161.2	101.3	52.2
January to March	do	17.9	23.1	14.9	2.0	56.5	3.2	39.3	23.7	12.4
April to June	do	18.5	24.0	15.4	2.1	61.4	3.4	40.7	25.3	13.0
July to September	do	18.2	22.9	14.7	2.0	59.0	3.1	39.9	25.4	13.3
October to December	do	19.7	23.9	15.8	2.2	59.9	2.8	41.3	26.8	13.5
Wages	mil. dol.	395.5	587.6	474.8	64.8	1 956.6	80.2	842.5	446.1	260.2
Cost of materials, etc.	do	762.2	1 510.1	1 505.4	234.9	5 130.8	283.2	2 318.0	674.1	831.7
Materials, parts, containers, etc., consumed	do	619.2	1 229.9	1 297.7	198.8	4 862.3	266.1	2 030.9	538.1	742.6
Resales	do	23.5	110.6	34.7	1.0	13.5	6.6	98.8	19.3	17.9
Fuels consumed	do	6.6	26.5	88.3	8.7	40.7	4.0	28.3	36.1	30.1
Purchased electric energy	do	16.3	33.4	37.6	7.0	85.5	4.7	41.6	47.3	19.4
Contract work	do	96.6	109.6	47.2	19.4	128.8	1.8	118.5	33.3	21.7
Value of shipments, including resales	do	1 771.7	3 319.5	2 795.7	456.7	9 739.2	536.9	4 735.7	1 848.5	1 607.7
Value of resales	do	32.2	149.4	42.9	1.8	15.7	8.2	114.4	23.5	20.8
Value added by manufacture	do	1 023.9	1 840.3	1 301.4	240.7	4 654.5	265.4	2 451.5	1 181.8	781.1
Manufacturers' inventories:										
Beginning of year	do	207.9	673.3	429.8	101.1	872.8	99.2	657.2	112.5	139.2
Finished products	do	48.1	294.8	33.8	10.2	51.0	35.5	168.6	16.9	26.4
Work in process	do	69.8	139.8	156.0	62.0	339.6	20.0	170.7	20.0	23.6
Materials, supplies, fuel, etc.	do	90.0	238.8	240.0	28.9	482.2	43.7	317.9	75.5	89.1
End of year	do	230.6	714.3	452.7	123.8	948.3	121.0	715.7	128.3	159.0
Finished products	do	55.3	302.1	33.2	12.3	59.0	47.2	195.0	21.4	25.1
Work in process	do	76.9	163.3	167.7	78.8	377.7	20.1	178.0	22.8	30.1
Materials, supplies, fuel, etc.	do	98.3	248.9	251.8	32.6	511.6	53.7	342.7	84.0	103.8
Capital expenditures for plant and equipment	do	82.6	132.6	136.1	13.2	313.8	17.4	174.7	82.5	52.5
New capital expenditures	do	71.9	112.3	126.7	12.2	292.2	17.1	154.7	73.2	47.8
New buildings and other structures	do	9.1	17.5	16.5	3.6	25.1	2.0	31.6	14.7	7.5
New machinery and equipment	do	62.8	94.8	110.2	8.6	267.1	15.1	123.0	58.4	40.3
Used capital expenditures	do	10.7	20.3	9.4	1.0	21.6	0.4	20.0	9.3	4.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Screw machine products (SIC 3451)		Bolts, nuts, rivets, and washers (SIC 3452)		Iron and steel forgings (SIC 3462)		Nonferrous forgings (SIC 3463)		Automotive stampings (SIC 3465)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	(2.8)	17	5.1	9	6.2	11	1.0	6	10.8	7
Response coverage ratio[2] (percent)	55	(X)	53	(X)	64	(X)	64	(X)	62	(X)
Machinery	(14.0)	15	28.6	6	40.9	7	(5.8)	17	53.6	5
Response coverage ratio[2] (percent)	53	(X)	53	(X)	64	(X)	63	(X)	56	(X)
Cost of purchased communication services	4.0	13	12.0	10	(7.5)	(A)	(0.9)	48	7.7	5
Response coverage ratio[2] (percent)	57	(X)	53	(X)	61	(X)	75	(X)	68	(X)
Rental payments	20.2	7	26.6	6	7.8	9	3.6	8	(37.5)	38
Buildings and other structures	12.5	9	13.3	13	(2.1)	25	1.5	6	13.6	14
Machinery and equipment	7.7	9	13.3	5	5.7	5	2.1	10	(23.9)	53
Supplemental labor costs	85.3	3	183.3	2	161.3	1	25.2	4	690.2	1
Legal costs	43.6	3	71.0	2	59.9	2	6.9	5	194.3	1
Voluntary costs	41.7	4	112.3	2	101.4	2	18.3	5	495.9	1
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	99.3	9	286.3	4	210.1	3	35.2	7	790.6	2
New capital expenditures	(7.2)	23	20.1	14	17.0	7	3.6	5	28.8	12
Used capital expenditures	(2.0)	46	(3.8)	18	1.2	3	0.5	1	(4.5)	20
Retirements	2.4	10	(16.9)	23	2.6	5	0.6	5	(3.6)	18
End of year	106.0	8	293.2	4	225.7	3	38.7	6	820.3	2
Machinery and equipment:										
Beginning of year	474.3	4	954.7	2	745.7	2	120.1	5	2,488.3	1
New capital expenditures	98.2	6	97.3	4	119.4	5	(D)	5	286.0	5
Automobiles, trucks, etc., for highway use[3]	(2.7)	(A)	(2.1)	(A)	(1.1)	(A)	(D)	(A)	(6.5)	(A)
Computers and peripheral data processing equipment[3]	(0.6)	(A)	(1.6)	(A)	(2.1)	(A)	(Z)	(A)	(0.7)	(A)
All other[3]	(74.8)	27	(84.8)	24	(100.7)	20	(D)	(A)	237.2	8
New machinery and equipment, n.s.k.[4]	(20.1)	98	(8.8)	(A)	(15.5)	(A)	(0.3)	(A)	(41.6)	48
Used capital expenditures	(18.8)	37	18.0	8	7.6	9	0.5	1	16.3	10
Retirements	12.0	13	35.6	4	22.5	3	5.8	3	66.5	9
End of year	579.3	3	1,034.5	2	850.1	2	124.7	5	2,724.1	1
Total gross value of depreciable assets:										
Beginning of year	573.5	3	1,241.0	2	955.8	2	155.2	5	3,278.8	1
New capital expenditures	105.4	6	117.3	4	136.4	4	13.6	5	314.8	5
Used capital expenditures	(20.8)	34	21.8	8	8.7	8	1.0	1	20.8	10
Retirements	14.4	11	52.5	8	25.1	3	6.3	3	70.1	9
End of year	685.3	3	1,327.6	2	1,075.8	2	163.5	5	3,544.3	1
Depreciation charges during 1977	49.1	5	92.8	2	71.6	3	7.9	3	266.3	2
Buildings and other structures	4.6	9	14.1	3	11.4	7	1.2	7	41.9	2
Machinery and equipment	44.5	6	78.7	2	60.2	3	6.7	4	224.4	2

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Crowns and closures (SIC 3466)		Metal stampings, n.e.c. (SIC 3469)		Plating and polishing (SIC 3471)		Metal coating and allied services (SIC 3479)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	0.8	6	7.2	11	(3.1)	15	(2.5)	19
Response coverage ratio[2] (percent)	58	(X)	53	(X)	57	(X)	54	(X)
Machinery	(3.6)	19	(107.6)	19	18.1	14	12.7	12
Response coverage ratio[2] (percent)	58	(X)	60	(X)	55	(X)	54	(X)
Cost of purchased communication services	(0.9)	17	(63.0)	(A)	5.2	14	(4.6)	15
Response coverage ratio[2] (percent)	58	(X)	57	(X)	52	(X)	54	(X)
Rental payments	2.8	7	(50.1)	17	31.9	14	16.8	11
Buildings and other structures	1.6	8	26.3	10	20.1	10	11.3	14
Machinery and equipment	1.2	12	(23.8)	27	(11.9)	29	(5.5)	17
Supplemental labor costs	26.5	2	212.4	2	90.0	4	57.1	4
Legal costs	8.6	2	105.4	2	54.1	4	30.7	4
Voluntary costs	17.9	3	107.0	3	35.9	6	26.4	6
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	29.3	3	300.5	5	145.0	10	120.1	10
New capital expenditures	2.1	6	27.2	10	(15.3)	29	(6.8)	23
Used capital expenditures	-	(X)	6.5	12	(1.7)	49	(2.9)	48
Retirements	(0.2)	35	7.2	7	(8.0)	43	(11.3)	79
End of year	31.1	3	327.0	5	154.1	9	118.5	7
Machinery and equipment:								
Beginning of year	127.1	2	935.1	2	446.6	4	373.6	5
New capital expenditures	15.7	5	136.3	5	(69.3)	19	49.1	11
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(5.4)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(Z)	(A)	(2.0)	(A)	(D)	(A)	(D)	(A)
All other[3]	(D)	(A)	(106.0)	19	(48.9)	41	(34.2)	58
New machinery and equipment, n.s.k.[4]	(1.6)	(A)	(22.9)	87	(16.7)	(A)	(12.8)	(A)
Used capital expenditures	0.3	1	13.6	14	(4.4)	28	(2.2)	25
Retirements	5.1	14	30.3	10	(31.2)	36	30.2	5
End of year	137.9	2	1,054.6	2	489.0	4	394.8	4
Total gross value of depreciable assets:								
Beginning of year	156.3	2	1,235.6	1	591.4	3	493.5	4
New capital expenditures	17.8	5	163.5	5	(84.6)	20	55.9	12
Used capital expenditures	0.3	1	20.0	11	(6.1)	25	(5.1)	30
Retirements	5.3	12	37.5	8	(38.9)	30	41.4	4
End of year	169.1	2	1,381.6	1	643.2	3	513.1	4
Depreciation charges during 1977	96.6	3	93.8	4	51.4	6	36.0	6
Buildings and other structures	0.9	4	14.0	5	8.7	12	6.2	10
Machinery and equipment	8.7	3	79.8	4	42.7	6	29.8	7

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3451, SCREW MACHINE PRODUCTS												
Total	-	**1 770**	**43.8**	**551.6**	**36.0**	**74.3**	**395.5**	**1 023.9**	**762.2**	**1 771.7**	**71.9**	**230.6**
Establishments with an average of—												
1 to 4 employees	E7	479	0.9	11.7	0.9	1.6	8.3	23.3	17.1	40.8	1.7	5.4
5 to 9 employees	E2	262	1.8	22.7	1.5	3.0	15.9	40.8	32.2	73.0	2.2	7.6
10 to 19 employees	E1	375	5.2	63.3	4.2	8.4	43.6	111.9	92.7	203.4	7.1	20.0
20 to 49 employees	-	426	12.9	158.3	10.7	21.6	112.4	286.8	205.3	488.9	19.2	54.6
50 to 99 employees	-	159	11.1	140.3	9.2	19.3	100.7	267.7	206.6	470.7	18.8	61.5
100 to 249 employees	-	61	8.9	114.6	7.1	15.1	84.1	229.0	172.2	395.6	20.2	62.5
250 to 499 employees	-	7	(3.0)	(40.8)	(2.4)	(5.2)	(30.5)	(64.5)	(36.1)	(99.5)	(2.7)	(19.1)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	472	1.2	14.7	1.2	2.1	10.4	27.6	21.1	48.8	1.9	7.0
INDUSTRY 3452, BOLTS, NUTS, RIVETS, AND WASHERS												
Total	-	**857**	**60.9**	**862.4**	**45.6**	**93.9**	**587.6**	**1 840.3**	**1 510.1**	**3 319.5**	**112.3**	**714.3**
Establishments with an average of—												
1 to 4 employees	E8	170	0.3	4.0	0.3	0.5	2.7	8.8	6.6	15.6	0.6	3.4
5 to 9 employees	E7	125	0.9	11.4	0.7	1.3	7.6	23.7	20.0	43.5	2.6	9.1
10 to 19 employees	E5	114	1.6	22.1	1.2	2.5	14.0	48.1	43.5	91.7	2.7	16.4
20 to 49 employees	E1	172	5.3	68.0	4.0	8.2	44.4	152.9	129.8	278.4	12.1	47.5
50 to 99 employees	-	116	7.9	104.4	6.0	12.7	71.3	251.0	255.3	506.6	15.8	90.6
100 to 249 employees	-	94	13.7	192.1	10.2	20.6	129.6	459.1	415.5	864.9	30.3	171.7
250 to 499 employees	-	48	16.4	242.6	12.0	25.4	159.2	492.3	363.7	856.6	27.6	196.8
500 to 999 employees	-	14	9.0	132.2	6.4	13.1	88.8	236.5	148.3	375.2	9.8	107.5
1,000 to 2,499 employees	-	4	5.8	85.7	4.8	9.6	70.0	169.8	127.4	287.0	10.8	71.3
Covered by administrative records[2]	E0	328	2.4	30.7	1.8	3.5	20.7	65.5	51.0	116.5	3.7	25.5
INDUSTRY 3462, IRON AND STEEL FORGINGS												
Total	-	**358**	**39.1**	**641.5**	**31.0**	**60.8**	**474.8**	**1 301.4**	**1 505.4**	**2 795.7**	**126.7**	**452.7**
Establishments with an average of—												
1 to 4 employees	E7	64	0.1	1.6	0.1	0.2	1.2	1.4	4.0	7.4	0.4	1.1
5 to 9 employees	E8	19	0.1	1.9	0.1	0.2	1.4	3.5	3.9	7.4	0.6	1.1
10 to 19 employees	E5	44	0.6	9.1	0.5	0.9	6.4	17.6	21.6	39.3	2.8	6.2
20 to 49 employees	-	73	2.4	34.9	1.8	3.7	23.2	81.1	91.9	173.1	6.2	24.8
50 to 99 employees	-	59	4.4	68.4	3.5	7.0	47.0	153.8	175.5	328.3	15.2	51.8
100 to 249 employees	-	63	10.2	155.9	8.1	16.1	114.3	326.7	391.5	709.3	36.3	126.9
250 to 499 employees	-	24	8.5	138.6	6.7	13.1	103.2	274.3	307.5	580.0	24.5	94.0
500 to 999 employees	-	9	6.0	95.6	4.7	9.3	73.7	226.3	238.0	459.9	17.8	81.7
1,000 to 2,499 employees	-	2	(6.8)	(135.4)	(5.4)	(10.4)	(104.6)	(216.7)	(271.4)	(490.9)	(23.0)	(65.2)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	98	0.7	9.6	0.6	1.0	7.1	17.6	19.9	37.4	2.1	6.1
INDUSTRY 3463, NONFERROUS FORGINGS												
Total	-	**47**	**5.4**	**93.7**	**4.2**	**8.2**	**64.8**	**240.7**	**234.9**	**456.7**	**12.2**	**123.8**
Establishments with an average of—												
1 to 4 employees	E8	12	(Z)	0.3	(Z)	(Z)	0.2	0.8	0.6	1.4	(Z)	0.3
5 to 9 employees	E2	2	(0.1)	(0.6)	(Z)	(0.1)	(0.3)	(1.6)	(1.5)	(3.1)	(0.1)	(0.5)
10 to 19 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	E1	14	0.5	6.9	0.4	0.7	4.2	14.0	18.8	32.6	0.4	5.3
100 to 249 employees	-	12	(2.1)	(34.4)	(1.6)	(3.3)	(23.0)	(76.7)	(81.3)	(155.2)	(5.8)	(32.7)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	2	(2.7)	(51.5)	(2.1)	(4.1)	(37.0)	(147.7)	(132.7)	(264.3)	(5.9)	(84.9)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	12	(Z)	0.7	(Z)	0.1	0.5	2.2	2.0	4.2	0.1	1.0
INDUSTRY 3465, AUTOMOTIVE STAMPINGS												
Total	-	**591**	**132.4**	**2 446.0**	**112.5**	**236.8**	**1 956.6**	**4 654.5**	**5 130.8**	**9 739.2**	**292.2**	**948.3**
Establishments with an average of—												
1 to 4 employees	E8	45	0.1	1.2	0.1	0.1	0.9	-0.1	2.4	4.7	(D)	0.5
5 to 9 employees	E7	33	0.2	3.7	0.2	0.4	2.8	7.7	8.0	15.7	(D)	1.7
10 to 19 employees	E4	81	1.1	17.6	0.9	1.9	12.4	34.8	40.3	74.9	1.9	6.5
20 to 49 employees	-	143	5.0	69.3	4.0	7.9	44.7	147.7	185.9	330.6	12.0	36.2
50 to 99 employees	-	106	7.3	94.8	6.1	12.0	65.8	213.0	295.9	505.7	15.2	58.2
100 to 249 employees	-	106	16.9	213.5	13.6	27.2	149.4	460.2	604.2	1 058.4	47.4	124.7
250 to 499 employees	-	38	13.1	149.5	11.1	22.1	116.3	334.9	401.8	727.7	16.1	93.8
500 to 999 employees	-	14	9.5	145.9	8.0	16.7	115.5	302.2	309.8	607.4	15.9	80.9
1,000 to 2,499 employees	-	6	8.9	213.0	8.3	18.8	175.2	376.6	404.0	774.6	11.2	77.9
2,500 employees or more	-	19	69.2	1 537.5	60.2	129.8	1 273.4	2 777.3	2 878.5	5 639.6	169.2	467.9
Covered by administrative records[2]	E0	98	0.8	13.2	0.7	1.4	10.4	25.4	27.2	52.6	1.1	5.7
INDUSTRY 3466, CROWNS AND CLOSURES												
Total	-	**56**	**7.9**	**104.8**	**6.5**	**12.6**	**80.2**	**285.4**	**283.2**	**536.9**	**17.1**	**121.0**
Establishments with an average of—												
1 to 4 employees	E4	4	(Z)	0.1	(Z)	(Z)	(Z)	0.1	0.2	0.3	(D)	0.1
5 to 9 employees	E0	3	(Z)	0.3	(Z)	(Z)	0.2	0.7	0.9	1.5	(D)	0.3
10 to 19 employees	E1	6	0.1	1.3	0.1	0.2	0.9	2.6	2.6	5.2	0.1	0.7
20 to 49 employees	-	12	0.4	5.2	0.4	0.7	3.4	14.5	11.6	24.8	0.8	4.9
50 to 99 employees	-	7	0.5	6.7	0.4	0.9	5.2	14.1	20.2	33.9	1.7	5.6
100 to 249 employees	-	15	(3.6)	(45.6)	(2.9)	(5.7)	(34.2)	(116.8)	(138.7)	(257.7)	(8.9)	(59.8)
250 to 499 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.6	18.1
500 to 999 employees	-	5	3.2	45.7	2.8	5.1	36.2	106.7	109.0	214.4	5.4	48.7
Covered by administrative records[2]	E0	7	0.1	0.8	0.1	0.1	0.6	1.8	2.3	4.1	0.1	0.8

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3469, METAL STAMPINGS, N.E.C.												
Total	**-**	**2 883**	**103.2**	**1 225.4**	**82.0**	**161.2**	**842.5**	**2 451.5**	**2 318.0**	**4 735.7**	**154.7**	**715.7**
Establishments with an average of—												
1 to 4 employees	E8	735	1.3	15.2	1.3	2.1	10.4	29.6	29.6	61.1	1.7	9.0
5 to 9 employees	E6	397	2.7	32.5	2.2	4.3	22.2	58.8	53.1	111.6	3.2	14.6
10 to 19 employees	E1	393	5.6	68.0	4.4	8.7	44.6	126.8	117.6	243.2	6.3	25.1
20 to 49 employees	E1	622	19.8	242.2	15.8	31.6	161.9	462.1	392.5	846.5	31.8	101.5
50 to 99 employees	E1	284	19.5	224.4	15.6	30.7	153.3	411.8	387.0	793.6	31.9	102.8
100 to 249 employees	-	169	25.3	303.4	20.3	40.8	215.2	595.3	603.6	1 190.7	39.8	186.3
250 to 499 employees	-	46	16.1	189.5	12.9	24.6	136.7	414.0	351.0	761.2	19.9	134.8
500 to 999 employees	-	14	9.3	103.5	7.0	13.1	67.7	249.6	233.2	477.9	(D)	104.8
1,000 to 2,499 employees	-	3	3.5	46.7	2.4	5.2	30.5	103.4	150.4	249.8	(D)	36.8
Covered by administrative records[2]	E0	944	3.7	42.6	3.3	5.9	29.2	77.3	73.5	150.8	4.5	22.6
INDUSTRY 3471, PLATING AND POLISHING												
Total	**E1**	**3 447**	**61.2**	**634.8**	**51.2**	**101.3**	**446.1**	**1 181.8**	**674.1**	**1 848.5**	**73.2**	**126.3**
Establishments with an average of—												
1 to 4 employees	E7	1 223	2.2	22.1	2.1	3.7	15.6	46.8	17.4	64.3	2.2	3.5
5 to 9 employees	E2	607	4.1	44.2	3.6	7.1	31.1	81.6	33.3	114.6	3.3	5.9
10 to 19 employees	E1	713	9.7	100.4	8.0	16.0	69.7	180.4	75.9	255.8	13.1	13.7
20 to 49 employees	E1	636	19.6	201.8	16.0	31.7	138.2	374.0	210.2	581.2	21.0	39.3
50 to 99 employees	-	195	13.3	138.4	11.1	21.9	98.0	255.4	151.7	404.7	22.0	26.0
100 to 249 employees	-	64	9.0	93.1	7.4	15.0	66.0	175.8	136.7	311.6	9.3	31.2
250 to 499 employees	-	8	(3.3)	(34.7)	(2.9)	(5.8)	(27.5)	(67.9)	(49.0)	(116.4)	(2.3)	(8.5)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	1 150	2.8	26.9	2.7	4.8	19.0	53.3	21.4	74.7	2.7	4.3
INDUSTRY 3479, METAL COATING AND ALLIED SERVICES												
Total	**-**	**1 648**	**32.3**	**373.7**	**25.9**	**52.2**	**260.2**	**781.1**	**831.7**	**1 607.7**	**47.8**	**159.0**
Establishments with an average of—												
1 to 4 employees	E8	636	1.0	11.9	1.0	1.8	8.3	22.6	20.4	44.1	1.3	3.9
5 to 9 employees	E3	252	1.6	18.7	1.3	2.7	12.9	33.5	22.2	55.8	1.3	4.3
10 to 19 employees	E1	291	4.1	43.4	3.3	6.3	29.5	76.8	54.5	130.7	6.1	11.2
20 to 49 employees	-	329	10.1	109.0	8.1	16.1	74.5	220.8	142.6	362.3	10.9	34.2
50 to 99 employees	-	88	5.9	67.2	4.7	9.8	46.6	137.1	105.9	241.6	6.4	23.9
100 to 249 employees	-	42	5.9	73.0	4.7	9.8	50.2	164.4	225.1	387.4	11.8	48.8
250 to 499 employees	-	9	(3.7)	(50.6)	(2.8)	(5.7)	(38.2)	(125.8)	(261.0)	(385.8)	(10.1)	(32.6)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	611	1.4	16.0	1.3	2.4	11.0	28.5	26.4	54.9	1.5	4.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3451	**Screw machine products:**										
	Entire industry	1 770	43.8	551.6	36.0	74.3	395.5	1 023.9	762.2	1 771.7	71.9
	Establishments with 75 percent specialization or more	1 692	40.1	506.1	33.0	68.4	363.2	938.4	694.4	1 619.3	64.4
34511	Automotive screw machine products, nonstandard:										
	Establishments with this product class primary	315	11.9	153.5	9.6	20.2	108.9	302.1	262.2	557.8	18.9
	Establishments with 75 percent specialization or more in class	262	10.4	134.2	8.4	17.7	95.6	256.3	226.2	477.3	15.3
34512	Other screw machine products, nonstandard:										
	Establishments with this product class primary	760	26.4	333.2	21.7	44.8	241.3	600.8	409.8	1 002.9	43.2
	Establishments with 75 percent specialization or more in class	662	21.4	270.1	17.7	36.5	196.7	486.7	322.0	801.8	35.9
3452	**Bolts, nuts, rivets, and washers:**										
	Entire industry	857	60.9	862.4	45.6	93.9	587.6	1 840.3	1 510.1	3 319.5	112.3
	Establishments with 75 percent specialization or more	795	54.0	757.8	40.5	83.9	515.4	1 630.6	1 343.6	2 953.6	100.7
34524	Externally threaded fasteners, except aircraft:										
	Establishments with this product class primary	231	28.2	401.3	21.1	43.0	273.5	834.8	780.4	1 607.0	53.9
	Establishments with 75 percent specialization or more in class	190	20.8	288.1	16.0	32.9	200.7	603.2	603.2	1 209.7	41.6
34525	Internally threaded fasteners, except aircraft:										
	Establishments with this product class primary	53	6.0	88.0	4.6	9.9	62.6	216.4	179.3	391.4	13.1
	Establishments with 75 percent specialization or more in class	35	4.5	67.0	3.5	7.4	48.0	171.5	142.4	310.1	10.8
34526	Nonthreaded fasteners, except aircraft:										
	Establishments with this product class primary	89	9.8	136.7	7.2	14.9	86.4	292.1	233.6	521.0	17.9
	Establishments with 75 percent specialization or more in class	65	6.1	82.2	4.6	9.6	52.9	180.5	155.7	334.0	12.4
34527	Aircraft aerospace fasteners:										
	Establishments with this product class primary	34	7.8	111.6	5.8	12.1	77.8	235.7	107.7	328.7	11.7
	Establishments with 75 percent specialization or more in class	21	3.5	49.6	2.6	5.4	34.5	109.4	43.5	144.7	5.2
34528	Other formed parts, made on fastener machines:										
	Establishments with this product class primary	37	4.3	64.7	3.2	6.7	46.3	133.2	114.1	247.2	6.2
	Establishments with 75 percent specialization or more in class	27	3.3	50.3	2.5	5.3	36.3	100.1	86.0	186.6	4.0
3462	**Iron and steel forgings:**										
	Entire industry	358	39.1	641.5	31.0	50.8	474.8	1 301.4	1 505.4	2 795.7	126.7
	Establishments with 75 percent specialization or more	332	31.9	518.7	25.5	50.4	385.2	1 094.7	1 269.1	2 352.9	107.2
34625	Hot impression die impact, steel forgings:										
	Establishments with this product class primary	140	29.7	495.1	23.7	45.9	371.7	986.5	1 121.3	2 094.8	91.7
	Establishments with 75 percent specialization or more in class	126	22.9	376.4	18.5	36.2	285.1	796.2	908.7	1 694.3	73.2
34626	Cold impression die impact, steel forgings:										
	Establishments with this product class primary	18	2.5	41.4	2.0	4.2	31.8	99.4	122.6	223.3	9.6
	Establishments with 75 percent specialization or more in class	16	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34627	Seamless rolled ring ferrous forgings:										
	Establishments with this product class primary	12	1.0	15.8	0.7	1.4	8.8	41.1	48.4	88.5	6.6
	Establishments with 75 percent specialization or more in class	5	0.2	2.9	0.1	0.3	1.4	7.7	8.3	16.7	0.8
34628	Open die or smith ferrous forgings (plants):										
	Establishments with this product class primary	49	4.1	62.8	3.1	6.3	43.5	123.9	161.2	286.4	12.3
	Establishments with 75 percent specialization or more in class	45	3.6	55.8	2.8	5.6	38.3	109.3	142.3	253.6	(D)
3463	**Nonferrous forgings:**										
	Entire industry	47	5.4	93.7	4.2	8.2	64.8	240.7	234.9	456.7	12.2
	Establishments with 75 percent specialization or more	41	3.8	63.4	3.0	5.9	46.7	178.9	170.9	335.5	(D)
34635	Hot impression die impact, nonferrous forgings:										
	Establishments with this product class primary	20	4.7	81.7	3.6	7.0	56.6	213.0	195.6	389.9	8.4
	Establishments with 75 percent specialization or more in class	16	3.2	55.6	2.6	5.1	41.5	158.4	144.5	288.7	(D)
34636	Cold impression die impact, nonferrous forgings:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34637	Seamless rolled ring nonferrous forgings:										
	Establishments with this product class primary	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34638	Open die or smith nonferrous forgings:										
	Establishments with this product class primary	7	0.4	5.8	0.3	0.6	3.8	15.6	25.8	41.0	(D)
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3465	**Automotive stampings:**										
	Entire industry	591	132.4	2 446.0	112.5	236.8	1 956.6	4 654.5	5 130.8	9 739.2	292.2
	Establishments with 75 percent specialization or more	504	117.2	2 209.7	100.0	209.7	1 772.3	4 196.4	4 623.5	8 779.8	270.8
3466	**Crowns and closures:**										
	Entire industry	56	7.9	104.8	6.5	12.6	80.2	265.4	283.2	536.9	17.1
	Establishments with 75 percent specialization or more	51	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34661	Metal commercial closures:										
	Establishments with this product class primary	39	6.8	90.0	5.6	10.9	70.3	220.2	229.2	438.7	13.7
	Establishments with 75 percent specialization or more in class	35	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34662	Metal crowns for glass and metal containers:										
	Establishments with this product class primary	9	1.0	13.8	0.8	1.6	9.1	42.9	51.1	93.0	3.2
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3469	**Metal stampings, n.e.c.:**										
	Entire industry	2 663	103.2	1 225.4	82.0	161.2	842.5	2 451.5	2 318.0	4 735.7	154.7
	Establishments with 75 percent specialization or more	2 397	79.9	940.9	64.2	125.5	652.0	1 860.8	1 751.4	3 588.8	116.3
34692	Job stampings, except automotive:										
	Establishments with this product class primary	823	45.5	575.2	36.4	73.7	402.9	1 103.5	1 058.1	2 143.0	72.7
	Establishments with 75 percent specialization or more in class	635	32.9	412.7	26.5	53.5	291.0	804.6	788.6	1 582.2	52.0
34694	Stamped and spun utensils, cooking, aluminum:										
	Establishments with this product class primary	36	7.0	73.2	5.2	9.8	48.4	167.7	179.0	347.0	6.3
	Establishments with 75 percent specialization or more in class	28	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34695	Stamped & spun cooking utensils, exc. aluminum:										
	Establishments with this product class primary	49	8.1	97.4	6.1	11.4	63.3	236.6	228.8	465.2	9.8
	Establishments with 75 percent specialization or more in class	35	4.0	45.9	3.1	5.5	31.6	118.4	103.3	220.3	5.1
34699	Other stamped and pressed metal end products:										
	Establishments with this product class primary	377	28.0	314.0	22.2	43.1	213.8	646.2	582.0	1 212.7	44.7
	Establishments with 75 percent specialization or more in class	299	20.5	224.9	16.2	31.1	150.5	447.5	373.0	810.0	28.0
3471	**Plating and polishing:**										
	Entire industry	3 447	61.2	634.8	51.2	101.3	446.1	1 181.8	674.1	1 848.5	73.2
	Establishments with 75 percent specialization or more	3 328	57.6	598.5	48.1	95.1	418.4	1 118.1	639.6	1 750.5	68.9
3479	**Metal coating and allied services:**										
	Entire industry	1 648	32.3	373.7	25.9	52.2	260.2	781.1	831.7	1 607.7	47.8
	Establishments with 75 percent specialization or more	1 566	27.4	316.5	22.3	44.6	220.4	657.2	706.9	1 361.0	41.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. **Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967**

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3451	Screw machine products	1977.. 1,771.7	1,629.0	67.1	75.6	96	1,771.4	1,629.0	142.4	92
		1972.. 1,063.8	972.4	44.7	46.7	96	1,083.1	972.4	110.7	90
		1967.. 1,021.5	933.6	40.5	47.4	96	1,036.1	933.6	102.5	90
3452	Bolts, nuts, rivets, and washers	1977.. 3,319.5	2,936.0	195.9	187.5	94	3,130.3	2,936.0	194.3	94
		1972.. 2,027.6	1,802.6	136.8	88.2	93	1,988.4	1,802.6	185.8	91
		1967.. 1,643.9	1,449.5	97.2	97.2	94	1,613.1	1,449.5	163.6	90
3462	Iron and steel forgings	1977.. 2,795.7	2,495.8	218.9	81.0	92	2,966.7	2,495.8	470.9	84
		1972.. 1,416.1	1,259.3	115.9	40.9	92	1,838.7	1,259.3	579.4	68
		1967.. 1,261.6	1,110.0	125.0	26.6	90	1,550.7	1,110.0	440.7	72
3463	Nonferrous forgings	1977.. 456.7	361.5	54.1	41.1	87	540.4	361.5	178.9	67
		1972.. 222.5	175.7	34.2	12.6	84	280.8	175.7	105.1	63
		1967.. 333.1	187.3	129.7	16.1	59	348.1	187.3	160.8	54
3465	Automotive stampings	1977.. 9,739.2	8,779.9	753.7	205.7	92	9,599.8	8,779.9	819.9	91
		1972.. 5,286.0	4,753.5	406.5	126.0	92	5,155.8	4,753.5	402.3	92
		1967.. (NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3466	Crowns and closures	1977.. 536.9	497.3	26.6	12.9	95	581.0	497.3	83.7	86
		1972.. 343.5	283.3	37.8	22.4	88	339.4	283.3	56.1	83
		1967.. (NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3469	Metal stampings, n.e.c.	1977.. 4,735.7	3,990.1	552.7	192.9	88	4,554.5	3,990.1	564.4	88
		1972.. 2,688.8	2,217.2	356.7	144.9	86	2,614.9	2,217.2	397.7	85
		1967.. (NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3471	Plating and polishing	1977.. 1,848.5	1,728.4	50.5	69.7	(1)	[2]1,775.1	1,728.4	[2]46.7	(1)
		1972.. 1,034.5	993.4	25.6	15.5	(1)	[2]993.4	993.4	(2)	(1)
		1967.. 791.1	756.1	26.6	8.4	(1)	[2]756.1	756.1	(2)	(1)
3479	Metal coating and allied services	1977.. 1,607.7	1,368.1	114.0	125.6	(1)	1,520.5	1,368.1	[2]152.4	(1)
		1972.. 701.8	682.0	16.2	3.6	(1)	682.0	682.0	(2)	(1)
		1967.. 471.3	404.3	58.3	8.7	(1)	404.3	404.3	(2)	(1)

(NA) Not available. n.e.c. Not elsewhere classified.

[1]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[2]Values for plating, polishing, metal coating, engraving, etc., are not available for establishments classified outside industries 3471 and 3479.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Screw machine products (SIC 3451)	Bolts, nuts, rivets, and washers (SIC 3452)	Iron and steel forgings (SIC 3462)	Nonferrous forgings (SIC 3463)	Automotive stampings (SIC 3465)	Crowns and closures (SIC 3466)	Metal stampings, n.e.c. (SIC 3469)	Plating and polishing (SIC 3471)	Metal coating and allied services (SIC 3479)	Other industries
	Total	(X)	1,771.7	3,319.5	2,795.7	456.7	9,739.2	536.9	4,735.7	1,848.5	1,607.7	(X)
	Primary products	(X)	1,629.0	2,936.0	2,495.8	361.5	8,779.9	497.3	3,990.1	1,728.4	1,368.1	(X)
	Secondary products	(X)	67.1	195.9	218.9	54.1	753.7	26.6	552.7	50.5	114.0	(X)
	Miscellaneous receipts	(X)	75.6	187.5	81.0	41.1	205.7	12.9	192.9	69.7	125.6	(X)
3451-	Screw machine products	1,771.4	1,629.0	58.5	(D)	-	(D)	(D)	(D)	-	(D)	78.0
34511	Automotive screw machine products, nonstandard	598.4	548.5	(D)	-	-	-	-	(D)	-	-	35.6
34512	Other screw machine products, nonstandard	958.6	875.9	(D)	(D)	-	(D)	(D)	5.0	-	(D)	34.6
34510	Screw machine products, n.s.k	214.4	204.7	1.9	-	-	-	-	-	-	-	7.8
3452-	Bolts, nuts, rivets, and washers	3,130.3	20.9	2,936.0	(D)	-	-	-	(D)	-	-	166.0
34524	Externally threaded fasteners, except aircraft	1,451.2	(D)	1,347.3	(D)	-	-	-	(D)	-	-	92.6
34525	Internally threaded fasteners, except aircraft	412.6	(D)	397.0	(D)	-	-	-	(D)	-	-	13.0
34526	Nonthreaded fasteners, except aircraft	517.2	(D)	474.8	-	-	-	-	(D)	-	-	37.4
34527	Aircraft aerospace fasteners	237.9	(D)	231.6	-	-	-	-	-	-	-	(D)
34528	Other formed parts, made on fastener machines	284.6	(D)	270.4	(D)	-	-	-	-	-	-	6.4
34520	Bolts, nuts, rivets, and washers, n.s.k	226.8	(Z)	214.7	-	-	-	-	-	-	-	12.1
3462-	Iron and steel forgings	2,966.7	(D)	(D)	2,495.8	43.6	-	-	.5	-	-	415.6
34625	Hot impression die impact steel forgings	2,155.4	(D)	(D)	1,798.3	(D)	-	-	-	-	-	312.0
34626	Cold impression die impact steel forgings	215.7	-	-	(D)	(D)	-	-	-	-	-	(D)
34627	Seamless rolled ring ferrous forgings	113.8	-	-	(D)	(D)	-	-	-	-	-	-
34628	Open die or smith ferrous forgings (plants)	384.7	-	-	301.0	(D)	-	-	-	-	-	(D)
34620	Iron and steel forgings, n.s.k	97.1	.4	.2	85.9	-	-	-	.5	-	-	10.1
3463-	Nonferrous forgings	540.4	-	-	87.1	361.5	-	-	-	-	.5	91.3
34635	Hot impression die impact nonferrous forgings	468.1	-	-	77.2	305.7	-	-	-	-	-	85.2
34636	Cold impression die impact nonferrous forgings	8.5	-	-	(D)	(D)	-	-	-	-	-	5.2
34637	Seamless rolled ring nonferrous forgings	15.9	-	-	(D)	(D)	-	-	-	-	-	(D)
34638	Open die or smith nonferrous forgings	36.8	-	-	(D)	(D)	-	-	-	-	-	(D)
34630	Nonferrous forgings, n.s.k	11.1	-	-	.1	10.4	-	-	-	-	.5	-
34650	Automotive job stampings	9,599.8	-	(D)	(D)	-	8,779.9	-	(D)	-	(D)	716.0
3466-	Crowns and closures	581.0	-	-	-	-	(D)	497.3	(D)	-	-	81.5
34661	Metal commercial closures	470.7	-	-	-	-	(D)	417.7	(D)	-	-	(D)
34662	Metal crowns for glass and metal containers	104.8	-	-	-	-	(D)	74.2	-	-	-	(D)
34660	Crowns and closures, n.s.k	5.6	-	-	-	-	-	5.4	-	-	-	.2
3469-	Metal stampings, n.e.c	4,554.5	(D)	(D)	.3	-	166.0	(D)	3,991.5	.3	(D)	378.6
34692	Job stampings, except automotive	2,199.3	(D)	(D)	-	-	158.8	(D)	1,871.5	(D)	5.5	158.5
34694	Stamped and spun utensils, cooking, aluminum	330.1	-	-	-	-	(D)	-	280.6	-	-	49.1
34695	Stamped and spun cooking utensils, except aluminum	385.4	-	-	-	-	(D)	-	328.9	(D)	-	54.3
34699	Other stamped and pressed metal end products	1,073.0	(D)	(D)	-	-	2.8	(D)	980.7	(D)	(D)	84.3
34690	Metal stampings, n.e.c., n.s.k	566.7	.4	1.7	.3	-	1.8	-	529.8	-	.3	32.4
34710	Electroplating, plating, and polishing	1,775.1	(D)	-	-	-	(D)	-	(D)	1,728.4	19.6	22.2
34790	Coating, engraving, and allied services, n.e.c.	1,520.5	(D)	-	-	-	-	-	(D)	26.1	1,368.1	106.7
	Other shipments by 4-digit product group:											
2396-	Automotive and apparel trimmings	(X)	-	-	-	-	(D)	-	-	-	-	(X)
2426-	Hardwood dimension and flooring	(X)	-	-	-	-	-	-	(D)	-	-	(X)
2542-	Metal partitions and fixtures	(X)	-	-	-	-	-	-	(D)	-	-	(X)
2591-	Drapery hardware and blinds and shades	(X)	-	(D)	-	-	-	-	(D)	-	-	(X)
2655-	Fiber cans, drums, and similar products	(X)	-	-	-	-	-	-	(D)	-	-	(X)
2752-	Commercial printing, lithographic	(X)	-	-	-	-	-	-	-	-	(D)	(X)
2899-	Chemical preparations, n.e.c	(X)	-	(D)	-	-	-	-	-	-	-	(X)
3041-	Rubber and plastics hose and belting	(X)	-	-	-	-	-	-	(D)	-	(D)	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	-	-	(D)	(D)	(D)	(D)	(D)	(X)
3269-	Pottery products, n.e.c	(X)	-	-	-	-	-	-	-	-	(D)	(X)
3315-	Steel wire and related products	(X)	-	(D)	-	-	-	-	(D)	-	-	(X)
3317-	Steel pipe and tubes	(X)	(D)	-	-	-	(D)	-	(D)	(D)	-	(X)
3325-	Steel foundries, n.e.c	(X)	-	-	(D)	-	-	-	(D)	(D)	-	(X)
3351-	Copper rolling and drawing	(X)	-	-	-	-	-	-	(D)	-	-	(X)
3362-	Brass, bronze, and copper foundries	(X)	-	(D)	-	(D)	-	-	-	-	-	(X)
3398-	Metal heat treating	(X)	-	-	-	-	(D)	-	-	6.2	(D)	(X)
3411-	Metal cans	(X)	-	-	-	-	(D)	(D)	4.2	-	-	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis—Shipments by Product Class and Industry: 1977**—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Screw machine products (SIC 3451)	Bolts, nuts, rivets, and washers (SIC 3452)	Iron and steel forgings (SIC 3462)	Nonferrous forgings (SIC 3463)	Automotive stampings (SIC 3465)	Crowns and closures (SIC 3466)	Metal stampings, n.e.c. (SIC 3469)	Plating and polishing (SIC 3471)	Metal coating and allied services (SIC 3479)	Other industries
	Other shipments by 4-digit product group--Con.											
3412-	Metal barrels, drums, and pails	(X)	-	-	-	-	(D)	(D)	(Z)	-	-	(X)
3423-	Hand and edge tools, n.e.c	(X)	-	9.0	(D)	-	(D)	-	(D)	(D)	-	(X)
3429-	Hardware, n.e.c	(X)	(D)	6.3	(D)	-	(D)	-	9.0	-	-	(X)
3431-	Metal sanitary ware	(X)	-	(D)	-	-	-	-	(D)	-	-	(X)
3441-	Fabricated structural metal	(X)	-	(D)	(D)	-	6.9	-	10.1	-	(D)	(X)
3442-	Metal doors, sash, and trim	(X)	-	-	-	-	(D)	-	(D)	(D)	(D)	(X)
3443-	Fabricated plate work (boiler shops)	(X)	-	(D)	(D)	-	-	-	2.1	-	(D)	(X)
3444-	Sheet metal work	(X)	(D)	-	-	-	(D)	-	(D)	(D)	(D)	(X)
3446-	Architectural metal work	(X)	-	-	-	-	-	-	(D)	(D)	-	(X)
3448-	Prefabricated metal buildings	(X)	(D)	-	-	-	(D)	-	(D)	-	-	(X)
3449-	Miscellaneous metal work	(X)	-	-	-	-	-	-	(D)	-	(D)	(X)
3484-	Small arms	(X)	(D)	-	-	-	-	-	(D)	-	-	(X)
3493-	Steel springs, except wire	(X)	-	(D)	-	-	-	-	(D)	-	-	(X)
3494-	Valves and pipe fittings	(X)	(D)	(D)	(D)	-	-	-	(D)	-	(D)	(X)
3495-	Wire springs	(X)	-	(D)	-	-	(D)	-	(D)	-	-	(X)
3496-	Miscellaneous fabricated wire products	(X)	.3	(D)	-	-	(D)	-	(D)	.1	-	(X)
3498-	Fabricated pipe and fittings	(X)	(D)	(D)	-	-	-	-	(D)	(D)	(D)	(X)
3499-	Fabricated metal products, n.e.c	(X)	(D)	(D)	(D)	-	(D)	-	15.9	.4	(D)	(X)
3523-	Farm machinery and equipment	(X)	-	-	(D)	-	(D)	-	4.1	-	-	(X)
3524-	Lawn and garden equipment	(X)	(D)	-	-	-	(D)	-	(D)	-	-	(X)
3531-	Construction machinery	(X)	-	-	-	-	(D)	-	(D)	-	-	(X)
3532-	Mining machinery	(X)	-	-	-	-	-	-	(D)	-	-	(X)
3533-	Oil field machinery	(X)	-	(D)	-	-	-	-	-	(D)	-	(X)
3537-	Industrial trucks and tractors	(X)	-	-	(D)	-	-	-	(D)	-	-	(X)
3541-	Machine tools, metal cutting types	(X)	(D)	(D)	(D)	-	(D)	-	(D)	-	-	(X)
3542-	Machine tools, metal forming types	(X)	-	(D)	-	-	-	-	(D)	-	-	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	(X)
3546-	Power driven hand tools	(X)	-	(D)	-	-	-	-	(D)	-	-	(X)
3549-	Metalworking machinery, n.e.c	(X)	(D)	(D)	-	-	(D)	-	(D)	-	-	(X)
3551-	Food products machinery	(X)	-	(D)	-	-	-	-	3.3	-	-	(X)
3552-	Textile machinery	(X)	(D)	-	-	-	-	-	(D)	-	-	(X)
3559-	Special industry machinery, n.e.c	(X)	(D)	-	-	-	-	-	(D)	-	(D)	(X)
3562-	Ball and roller bearings	(X)	(D)	(D)	-	-	-	-	-	-	(D)	(X)
3568-	Power transmission equipment, n.e.c	(X)	-	(D)	-	-	-	-	(D)	-	-	(X)
3569-	General industrial machinery, n.e.c	(X)	(D)	(D)	-	-	-	(D)	(D)	-	(D)	(X)
3589-	Service industry machinery, n.e.c	(X)	(D)	-	-	-	-	-	(D)	-	-	(X)
3599-	Machinery, except electrical, n.e.c	(X)	(D)	(D)	-	(D)	(D)	-	(D)	1.5	-	(X)
3621-	Motors and generators	(X)	(D)	-	-	-	(D)	-	-	-	-	(X)
3622-	Industrial controls	(X)	(D)	-	-	-	-	-	(D)	-	-	(X)
3623-	Welding apparatus, electric	(X)	(D)	(D)	-	-	(D)	-	-	-	-	(X)
3631-	Household cooking equipment	(X)	-	-	-	-	-	-	(D)	-	-	(X)
3632-	Household refrigerators and freezers	(X)	-	-	-	-	(D)	-	-	-	-	(X)
3634-	Electric housewares and fans	(X)	-	-	-	-	(D)	-	90.0	-	-	(X)
3635-	Household vacuum cleaners	(X)	-	-	-	-	-	-	(D)	-	-	(X)
3644-	Noncurrent-carrying wiring devices	(X)	-	(D)	-	-	(D)	-	(D)	-	-	(X)
3678-	Electronic connectors	(X)	(D)	-	-	-	-	-	-	-	-	(X)
3679-	Electronic components, n.e.c	(X)	(D)	-	-	-	-	-	3.2	(D)	-	(X)
3713-	Truck and bus bodies	(X)	-	-	-	-	(D)	-	(D)	-	-	(X)
3714-	Motor vehicle parts and accessories	(X)	6.7	(D)	(D)	-	(D)	-	(D)	(D)	-	(X)
3728-	Aircraft equipment, n.e.c	(X)	-	(D)	-	-	-	-	(D)	-	-	(X)
3751-	Motorcycles, bicycles, and parts	(X)	-	(D)	-	-	-	-	(D)	-	-	(X)
3799-	Transportation equipment, n.e.c	(X)	(D)	-	-	-	-	-	(D)	-	-	(X)
3963-	Buttons	(X)	-	-	-	-	-	-	(D)	-	-	(X)
3964-	Needles, pins, and fasteners	(X)	(D)	(D)	-	-	-	-	-	-	-	(X)
3999-	Manufacturing industries, n.e.c	(X)	(D)	-	-	-	(D)	-	(D)	-	-	(X)
	Miscellaneous receipts:											
93000 00	Contract work	(X)	19.0	(D)	10.7	(D)	11.2	(D)	34.6	37.8	88.8	(X)
99980 98	Other miscellaneous receipts	(X)	24.4	(D)	27.4	(D)	178.7	(D)	43.9	8.4	16.0	(X)
99989 00	Resales	(X)	32.2	149.4	42.9	1.8	15.7	8.2	114.4	23.5	20.8	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977 — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3451-	3494 Valves and pipe fittings	(D)
	3519 Internal combustion engines, n.e.c	(D)
	3586 Measuring and dispensing pumps	(D)
	3678 Electronic connectors	(D)
	3714 Motor vehicle parts and accessories	(D)
3452-	3312 Blast furnaces and steel mills	75.1
	3441 Fabricated structural metal products	(D)
	3523 Farm machinery and equipment	(D)
	3568 Power transmission equipment, n.e.c	(D)
	3644 Noncurrent-carrying wiring devices	(D)
	3714 Motor vehicle parts and accessories	(D)
3462-	3312 Blast furnaces and steel mills	(D)
	3325 Steel foundries, n.e.c	18.7
	3423 Hand and edge tools, n.e.c	(D)
	3441 Fabricated structural metal products	(D)
	3494 Valves and pipe fittings	(D)
	3523 Farm machinery and equipment	(D)
	3533 Oil field machinery	(D)
	3537 Industrial trucks and tractors	(D)
	3711 Motor vehicles and car bodies	(D)
	3714 Motor vehicle parts and accessories	(D)
	3743 Railroad equipment	(D)
3463-	3351 Copper rolling and drawing	(D)
	3354 Aluminum extruded products	(D)
	3494 Valves and pipe fittings	(D)
3465-	3312 Blast furnaces and steel mills	(D)
	3353 Aluminum sheet, plate, and foil	(D)
	3544 Special dies, tools, jigs, and fixtures	7.5
3465-	3711 Motor vehicles and car bodies	(D)
	3714 Motor vehicle parts and accessories	(D)
	3822 Environmental controls	(D)
3466-	3079 Miscellaneous plastics products	(D)
	3411 Metal cans	(D)
	3497 Metal foil and leaf	(D)
3469-	2514 Metal household furniture	(D)
	2655 Fiber cans, drums and similar products	(D)
	3312 Blast furnaces and steel mills	(D)
	3429 Hardware, n.e.c	14.1
	3431 Metal sanitary ware	(D)
	3442 Metal doors, sash, and trim	(D)
	3444 Sheet metal work	18.0
	3495 Wire springs	(D)
	3496 Miscellaneous fabricated wire products	(D)
	3499 Fabricated metal products, n.e.c	10.1
	3531 Construction machinery	(D)
	3544 Special dies, tools, jigs, and fixtures	10.4
	3549 Metalworking machinery, n.e.c	(D)
	3581 Automatic merchandising machines	(D)
	3631 Household cooking equipment	(D)
	3634 Electric housewares and fans	(D)
	3711 Motor vehicles and car bodies	(D)
3471-	3354 Aluminum extruded products	(D)
3479-	3411 Metal cans	(D)
	3444 Sheet metal work	(D)
	3499 Fabricated metal products, n.e.c	(D)
	3714 Motor vehicle parts and accessories	(D)
	3961 Costume jewelry	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	SCREW MACHINE PRODUCTS			
3451- --	Total	(NA)	1,771.4	1,083.1
34511 --	Automotive screw machine products:			
34511 12	Nonstandard items made from rod, bar, or tube stock on automatic or hand-operated screw machines	424	598.4	245.7
34512 --	Other screw machine products	(NA)	958.6	638.7
	Nonstandard items made from rod, bar, or tube stock on automatic or hand-operated screw machines (reported on basis of end product in which to be incorporated):			
34512 22	Aircraft and ordnance	112	80.2	77.3
34512 42	Household appliances, including radio and television	157	106.5	90.8
34512 62	Machinery	202	193.7	140.5
34512 98	All other end uses, except automotive	337	456.9	330.1
34512 00	Other screw machine products, n.s.k.	(NA)	121.3	-
34510 00	Screw machine products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	165.6	129.9
34510 02	Screw machine products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	48.8	68.8

1977 product code	Product	1977				1972		
		Number of companies with shipments of $100,000 or more	Product shipments[1]			Product shipments		
			Quantity[2]		Value (million dollars)	Quantity		Value (million dollars)
			Million pieces	Million pounds		Million pieces	Million pounds	
	BOLTS, NUTS, RIVETS, AND WASHERS							
3452- --	Total	(NA)	(X)	(X)	3,130.3	(X)	(X)	1,988.4
34524 --	Externally threaded fasteners, except aircraft	(NA)	(X)	(X)	1,451.2	(X)	(X)	979.5
	Bolts, except nonmetallic:							
34524 11	Mine roof bolts	18	(S)	*570.9	125.0	(NA)	456.2	65.3
34524 12	Hex bolts, including heavy, tap and joint, excluding high strength structural	59	(S)	*379.6	204.8	(NA)	311.3	97.5
34524 19	Other metal bolts, including square, round, plow, high strength structural, and bent bolts	83	(X)	(X)	180.2	(NA)	356.1	110.0
	Screws, except nonmetallic:							
34524 39	Cap, set, machine, lag, flange, and self-locking	83	(S)	(S)	376.0	(NA)	377.5	285.3
34524 45	Tapping, including fillister, flat, hex, oval, and pan and truss; and wood, including flat, oval, and round	56	**24,034.7	**204.6	252.3	(NA)	(NA)	223.5
34524 89	Other externally threaded metal fasteners not mentioned above, including studs, and all nonmetallic externally threaded fasteners	87	(S)	(S)	288.2	(NA)	331.8	153.5
34524 00	Externally threaded fasteners, except aircraft, n.s.k.	(NA)	(X)	(X)	24.7	(X)	(X)	44.4
34525 --	Internally threaded fasteners, except aircraft	(NA)	(X)	(X)	412.6	(X)	(X)	248.5
	Nuts, except nonmetallic:							
34525 04	Hex, including flanges, double chamfered, washer face, flat, jam slotted, thick, castle, heavy, machine, and locking	61	(S)	**250.0	290.9	([3])	([3])	([3])
34525 29	Square, including flat, washer, crowned, heavy, track, sleeve, and machine; sheet metal; weld; wing; and cage, anchor, and nut retainers	27	(S)	(S)	69.8	(NA)	53.9	28.2
34525 89	Other internally threaded metal fasteners not mentioned above, including flanged nuts (all types except hex) and locknuts (all types except hex), and all nonmetallic internally threaded fasteners	33	(X)	(X)	46.8	([3])	([3])	([3])
34525 00	Internally threaded fasteners, except aircraft, n.s.k.	(NA)	(X)	(X)	5.1	[3](NA)	[3](NA)	[3]220.3
34526 --	Nonthreaded fasteners, except aircraft	(NA)	(X)	(X)	517.2	(X)	(X)	353.2
	Rivets, except nonmetallic:							
34526 09	Solid	32	(S)	**71.0	55.6	(NA)	91.4	34.8
34526 15	Tubular; split, including rivet caps; and blind	36	(S)	*93.0	121.2	(X)	(NA)	82.1
34526 35	Washers, except nonmetallic	42	(S)	**240.7	144.8	(NA)	320.1	105.2
34526 79	Other nonthreaded metal fasteners not mentioned above, including pins (all types), and all nonmetallic nonthreaded products	59	(X)	(X)	186.4	(NA)	276.4	115.3
34526 00	Nonthreaded fasteners, except aircraft, n.s.k.	(NA)	(X)	(X)	9.2	(X)	(X)	15.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of thisiindustry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977				1972		
		Number of companies with shipments of $100,000 or more	Product shipments[1]			Product shipments		
			Quantity[2]		Value (million dollars)	Quantity		Value (million dollars)
			Million pieces	Million pounds		Million pieces	Million pounds	
	BOLTS, NUTS, RIVETS, AND WASHERS--Con.							
34527 --	Aircraft-aerospace fasteners, meeting specifications for flying vehicles	(NA)	(X)	(X)	237.9	(X)	(X)	157.8
	Externally threaded:							
	Bolts:							
34527 01	Under 161 KSI tensile	10	(S)	(S)	24.0	211.7	3.8	14.9
34527 06	161 KSI tensile and over	11	(S)	**3.9	26.8	(NA)	3.5	38.8
34527 15	Screws, all types; and studs, all types	17	**210.0	(S)	47.4	(D)	(D)	(D)
	Internally threaded:							
34527 45	Locknuts, including flanged locknuts	10	*382.2	**6.4	43.5	(D)	(D)	(D)
34527 59	Other, including flanged nuts (all types excluding flanged locknuts), hex square nuts (all types), and sheet metal fasteners	11	(S)	(S)	46.7	(D)	(D)	(D)
	Nonthreaded:							
34527 61	Washers, all types	7	(S)	(S)	4.8	(NA)	(NA)	2.3
34527 62	Rivets, all types	10	(S)	(S)	32.3	(NA)	(NA)	23.2
34527 63	Pins, all types	10	(S)	(S)	9.6	(NA)	4.6	10.2
34527 00	Aircraft-aerospace fasteners, n.s.k.	(NA)	(X)	(X)	2.8	(X)	(X)	7.4
34528 --	Other formed parts, made on fastener machines	(NA)	(X)	(X)	284.6	(X)	(X)	140.3
34528 11	Automotive	32	(S)	**239.1	174.5	(NA)	137.0	65.9
34528 21	Household appliances, including radio and television	10	(S)	(S)	10.5	(NA)	7.2	7.9
34528 31	Aircraft	8	(S)	(S)	10.2	(NA)	(NA)	11.5
34528 98	All other, including ordnance	40	(S)	(S)	86.2	(NA)	(NA)	48.6
34528 00	Other formed fasteners, n.s.k.	(NA)	(X)	(X)	3.2	(X)	(X)	6.4
34520 00	Bolts, nuts, rivets, and washers, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	(X)	(X)	110.4	(X)	(X)	87.4
34520 02	Bolts, nuts, rivets, and washers, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	(X)	(X)	116.5	(X)	(X)	21.7

1977 product code	Product	Unit of measure	1977							1972	
			Number of companies with shipments of $100,000 or more	Product shipments including interplant transfers[1]		Shipments to other companies		Interplant transfers		Product shipments including interplant transfers	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
	IRON AND STEEL FORGINGS										
3312A -- 3312B -- 3462- --	Total	.....	(NA)	(X)	3,349.2	(X)	(X)	(X)	(X)	(X)	1,838.7
34625 --	Hot impression die impact, press, and upset ferrous forgings	1,000 s. tons	(NA)	1,758.7	2,155.4	1,446.7	1,688.5	312.0	466.9		
34625 11	Carbon steel		129	1,104.8	1,083.2						
34625 13	Alloy steel, excluding stainless and hi-temp.		114	601.5	706.7						
34625 15	Stainless steel		49	17.8	66.1	1,446.7	1,688.5	312.0	466.9		
34625 17	Hi-temp (iron, nickel, or cobalt-base alloys)		18	34.6	299.4						
34626 --	Cold impression die impact, press, and upset ferrous forgings		(NA)	238.5	215.7	174.0	164.6	64.5	51.1	(X)	1,275.1
34626 11	Carbon steel		14	(D)	(D)	110.8	110.9	(D)	(D)		
34626 13	Alloy steel, excluding stainless and hi-temp.		11	(D)	(D)	63.2	53.7	(D)	(D)		
34626 15	Stainless steel		3	**.7	1.9	**.7	1.9	-	-		
34626 17	Hi-temp (iron, nickel, or cobalt-base alloys)	1,000 s. tons	1					-	-		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977						1972	
			Number of companies with shipments of $100,000 or more	Product shipments including interplant transfers[1]		Shipments to other companies		Interplant transfers		Product shipments including interplant transfers
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
	IRON AND STEEL FORGINGS--Con.										
3312A -- 34627 --	Seamless rolled ring ferrous forgings	1,000 s. tons	(NA)	(S)	207.4	(S)	207.4	-	-		
3312A --	Made in industry 3312		(NA)	(S)	93.6	(S)	93.6	-	-		
34627 --	Made in industry 3462 and other industries.		(NA)	(S)	113.8	(S)	113.8	-	-		
3312A 21 34627 11	Carbon steel		(NA)	*59.7	56.8	*59.7	56.8	-	-		
3312A 21	Made in industry 3312		3	*59.7	56.8	*59.7	56.8	-	-		
34627 11	Made in industry 3462 and other industries.		15								
3312A 23 34627 13	Alloy steel, excluding stainless and hi-temp.		(NA)	*57.7	73.4	*57.7	73.4	-	-		
3312A 23	Made in industry 3312		4	*57.7	73.4	*57.7	73.4	-	-		
34627 13	Made in industry 3462 and other industries.		15								
3312A 25 34627 15	Stainless steel		(NA)	(S)	40.9	(S)	40.9	-	-		
3312A 25	Made in industry 3312		3	(S)	40.9	(S)	40.9	-	-		
34627 15	Made in industry 3462 and other industries.		12								
3312A 27 34627 17	Hi-temp (iron, nickel, or cobalt-base alloys)		(NA)	*4.9	36.4	*4.9	36.4	-	-		
3312A 27	Made in industry 3312		1	*4.9	36.4	*4.9	36.4	-	-		
34627 17	Made in industry 3462 and other industries.		9								
3312B -- 34628 --	Open die or smith ferrous forgings (hammer or press)		(NA)	495.2	673.6	430.3	597.7	64.9	75.9	(X)	524.6
3312B --	Made in industry 3312		(NA)	185.6	288.9	129.3	221.1	56.3	67.8		
34628 --	Made in industry 3462 and other industries.		(NA)	309.6	384.7	301.0	376.6	8.6	8.1		
3312B 61 34628 11	Carbon steel		(NA)	242.5	199.1	227.3	185.2	15.2	13.9		
3312B 61	Made in industry 3312		8	69.5	53.0	227.3	185.2	15.2	13.9		
34628 11	Made in indsutry 3462 and other industries.		54	173.0	146.1						
3312B 63 34628 13	Alloy steel, excluding stainless and hi-temp.		(NA)	241.4	427.8						
3312B 63	Made in industry 3312		10	114.6	229.1						
34628 13	Made in indsutry 3462 and other industries.		52	126.8	198.7	200.5	400.3	50.0	62.1		
3312B 65 34628 15	Stainless steel		(NA)	9.1	34.6						
3312B 65	Made in industry 3312		3	9.1	34.6						
34628 15	Made in industry 3462 and other industries.		27								
3312B 67 34628 17	Hi-temp (iron, nickel, or cobalt-base alloys)		(NA)	2.3	12.0	2.3	12.0	-	-		
3312B 67	Made in industry 3312		1	2.3	12.0	2.3	12.0	-	-		
34628 17	Made in industry 3462 and other industries.	1,000 s. tons	9								
34620 00	Iron and steel forgings, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	59.7	(X)	(X)	(X)	(X)	(X)	34.6
34620 02	Iron and steel forgings, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	37.4	(X)	(X)	(X)	(X)	(X)	4.4

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	NONFERROUS FORGINGS						
3463- --	Total	.....	(NA)	(X)	540.4	(X)	280.8
34635 --	Hot impression die impact, press and upset nonferrous forgings.	.....	(NA)	(X)	468.1		
34635 21	Aluminum and aluminum alloy	1,000 s. tons.	22	53.6	245.0		
34635 23	Titanium and titanium alloy		14	3.8	113.6		
34635 25	Copper and copper-base alloy		13	36.2	109.5		
34635 29	Other nonferrous forgings	1,000 s. tons.	8			(X)	[5]275.8
34636 --	Cold impression die impact, press and upset nonferrous forgings	.....	(NA)	2.1	8.5		
34636 21	Aluminum and aluminum alloy	1,000 s. tons.	4	(4)	(4)		
34636 23	Titanium and titanium alloy		-	-	-		
34636 25	Copper and copper-base alloy		1	[4]2.1	[4]8.5		
34636 29	Other nonferrous forgings	1,000 s. tons.	-	-	-		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	NONFERROUS FORGINGS--Con.						
34637 --	Seamless rolled ring forgings (nonferrous)	.....	(NA)	(X)	15.9		
34637 21	Aluminum and aluminum alloy	1,000 s. tons.	3				
34637 23	Titanium and titanium alloy		4				
34637 25	Copper and copper-base alloy		1	(S)	15.9		
34637 29	Other nonferrous forgings	1,000 s. tons.	1				
						(X)	[5]275.8
34638 --	Open die or smith forgings (hammer or press) nonferrous	.....	(NA)	(X)	36.8		
34638 21	Aluminum and aluminum alloy	1,000 s. tons.	7	2.1	9.9		
34638 23	Titanium and titanium alloy		8				
34638 25	Copper and copper-base alloy		2	3.3	26.9		
34638 29	Other nonferrous forgings	1,000 s. tons.	3				
34630 00	Nonferrous forgings, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	6.9	(X)	4.6
34630 02	Nonferrous forgings, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	4.2	(X)	.4

1977 product code	Product	Unit of measure	1977		1972	
			Number of companies with shipments of $100,000 or more	Value of product shipments (million dollars)	Product shipments	
					Quantity	Value (million dollars)
	AUTOMOTIVE STAMPINGS					
3465- --	Total	.....	(NA)	9,599.8	11,223.6	5,155.8
34650 --	Automotive job stampings:					
34650 13	Automotive job stampings (truck, bus, and passenger car)	1,000 s. tons.	462	9,599.8	11,223.6	5,155.8

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	CROWNS AND CLOSURES						
3466- --	Total	.....	(NA)	(X)	581.0	(X)	339.4
34661 --	Metal commercial closures and metal home canning closures, except crowns	.....	(NA)	(X)	470.7	(X)	274.6
	Metal commercial closures and home canning closures, except milk bottle closures:						
34661 10	As reported in the census of manufactures	.....	39	(X)	(D)	(X)	264.8
	As reported in Current Industrial Reports M34H	Millions	(NA)	(X)	460.8	18,985.0	252.6
	Metal commercial closures (caps)		(NA)	17,097.3	303.0	17,601.2	185.1
34661 03	Screw thread and lug type (nonvacuum)		(NA)	9,622.9	146.0	10,565.1	96.9
	By type of metal:						
34661 11	Aluminum		(NA)	3,271.6	146.0	2,978.2	(X)
34661 31	Tin mill products		(NA)	6,351.3		7,586.9	(X)
	By size:						
34661 33	38 millimeter and smaller		(NA)	6,508.9	146.0	7,165.0	(X)
34661 34	Over 38 millimeter (except styles 445, 450, and 460)		(NA)	1,955.6		2,201.0	(X)
34661 36	Styles 445, 450, and 460		(NA)	1,158.3		1,199.1	(X)
	Metal caps (vacuum):						
34661 43	Other than CT caps		(NA)	6,897.8	142.6	7,036.1	88.2
34661 44	CT caps	Millions	(NA)	576.6	14.4		
	Home canning closures:						
34661 87	Bands only	Million gross.	(NA)				
34661 88	Discs only		(NA)	16.3	40.1	11.5	14.5
34661 89	All other	Million gross.	(NA)				
34661 55	Metal closures (caps) for metal cans, except crowns	Millions	(NA)	529.8	7.1	733.8	6.1

See footnotes at end of table.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	CROWNS AND CLOSURES--Con.						
	Metal commercial closures and metal home canning closures, except crowns--Con.						
	Metal commercial closures and home canning closures, except milk bottle closures--Con.						
	As reported in Current Industrial Reports M34H--Con.						
34661 48	Metal closures (caps) for plastic containers (rigid, flexible, and collapsible), except child resistant types	Millions	(NA)	771.1	8.4	572.4	3.9
34661 58	Metal closures (caps) for vials and tubes (rigid, flexible, and collapsible), except child resistant type		(NA)				
34661 59	Metal closures (caps) child resistant	Millions	(NA)				
	All other metal closures (roll-ons, snip tabs, and tear-off and flip caps):						
34661 63	Soft drink	Million gross.	(NA)	87.3	102.2	54.3	33.5
34661 69	Beer and all other	Million gross.	(NA)			11.9	9.6
34661 51	Milk bottle closures (aluminum and tin mill only)		2	(D)	(D)	(X)	9.8
34661 00	Metal commercial closures and metal home canning closures, except crowns, n.s.k.		-	-	-		
	Metal crowns:						
34662 00	As reported in the census of manufactures		7	(X)	104.8	(X)	64.8
	As reported in Current Industrial Reports M34H		(NA)	256.3	107.6	230.7	60.9
	Soft drink containers:						
34662 16	Convenience type	Million gross.	(NA)	127.4	56.2	135.2	36.5
34662 17	Conventional type		(NA)				
	Beer and all other:						
34662 21	Convenience type		(NA)	83.2	34.3	95.5	24.4
34662 22	Conventional type	Million gross.	(NA)	46.0	17.2		
34660 00	Crowns and closures, n.s.k. typically for establishments with 5 employees or more (see note)		(NA)	(X)	1.5	-	-
34660 02	Crowns and closures, n.s.k. typically for establishments with less than 5 employees (see note)		(NA)	(X)	4.1	-	-
	METAL STAMPINGS, N.E.C.						
3469- --	Total		(NA)	(X)	4,554.5	(X)	2,614.9
34692 --	Job stampings, except automotive[6]		(NA)	(X)	2,199.3	(X)	1,283.1
34692 11	Aviation stampings		61	(X)	83.7	(X)	48.7
34692 15	Agricultural equipment stampings, including tractor		89	(X)	108.0	(X)	45.1
34692 25	Electrical appliance stampings, except refrigeration and laundry equipment		143	(X)	150.6	(X)	133.9
34692 31	Furniture stampings		46	(X)	51.3	(X)	36.4
34692 41	Office machine stampings		110	(X)	89.6	(X)	52.8
34692 52	Radio and phonograph stampings		38	(X)	39.7	(X)	(7)
34692 53	Television stampings		54	(X)	53.9	(X)	(7)
34692 61	Refrigerator stampings (residential, commercial, and industrial)		45	(X)	105.4	(X)	59.3
34692 71	Stove, heater, and air conditioner stampings (residential, commercial, and industrial)		83	(X)	84.0	(X)	65.8
34692 84	Laundry equipment stampings (residential, commercial, and industrial)		20	(X)	27.8	(X)	15.9
34692 89	Other industrial equipment stampings		207	(X)	252.1	(X)	(7)
34692 98	Other job stampings		473	(X)	1,013.1	(X)	7748.1
34692 00	Job stampings, except automotive, n.s.k.		(NA)	(X)	140.1	(X)	77.1
34694 --	Stamped and spun utensils, cooking and kitchen, aluminum		(NA)	(X)	330.1	(X)	205.0
34694 11	Top of range household utensils (those items generally used directly on top of source of heat), including pressure cookers	Millions	17	*91.1	187.9	(NA)	203.0
34694 14	Bakeware, pantryware, and miscellaneous household utensils		20	(S)	81.7		
34694 17	Camping and outdoor cooking equipment		8	(S)	18.8		
34694 29	Other, including commercial and hospital	Millions	15	(S)	38.7		
34694 00	Stamped and spun utensils, cooking and kitchen, aluminum, n.s.k.		(NA)	(X)	3.0	(X)	2.0
34695 --	Stamped and spun utensils, cooking and kitchen, except aluminum		(NA)	(X)	385.4	(X)	184.4
	Stainless steel:						
34695 07	Top of range household utensils (items generally used directly on top of source of heat)	Millions	17	(S)	191.7	(NA)	142.7
34695 09	Bakeware, pantryware, and miscellaneous household utensils		9	(S)	11.8		
34695 15	Other, including commercial, hospital, and outdoor cooking equipment	Millions	14	(S)	22.4		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Production by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	METAL STAMPINGS, N.E.C.--Con.						
	Stamped and spun utensils, cooking and kitchen, except aluminum--Con.						
	Tinware:						
34695 21	Household	Millions	10	(S)	49.4	(X)	22.5
34695 24	Other, including commercial, hospital, and outdoor cooking equipment	Millions	5				
34695 27	Vitreous enameled cooking and kitchen utensils		4	(X)	34.0	(X)	29.9
34695 98	Other stamped and spun utensils, cooking and kitchen, including copper		12	(X)	66.9	(X)	14.0
34695 00	Stamped and spun utensils, cooking and kitchen, except aluminum, n.s.k.		(NA)	(X)	9.2	(X)	5.2
34699 --	Other stamped and pressed metal end products, including vitreous enameled products		(NA)	(X)	1,073.0	(X)	588.4
	Vitreous (porcelain) enameled products, excluding cooking and kitchen utensils:[5]						
34699 41	Architectural parts (exterior and interior), including store front and curtain wall components		9	(X)	4.5	(X)	10.1
34699 48	Other products, including refrigerator parts, commercial and hospital utensils, and laundry equipment parts sold separately		15	(X)	29.2	(X)	28.9
34699 59	Perforated metal end products		28	(X)	62.2	(X)	50.4
	Pails, ash cans, garbage cans, tubs, etc., excluding shipping containers:						
34699 61	Galvanized steel		16	(X)	47.8	(X)	59.7
34699 69	Other metal, including other grades of steel		24	(X)	50.6	(X)	36.3
34699 71	Electronic enclosures (stamped and/or pressed)		112	(X)	183.0	(X)	68.2
34699 85	Mail boxes (commercial and multiple unit residential)		10	(X)	14.5	(X)	278.0
34699 98	Other stamped and pressed metal end products		198	(X)	626.5		
34699 00	Other stamped and pressed metal end products, n.s.k.		(NA)	(X)	54.7	(X)	26.9
34690 00	Metal stampings, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	415.2	(X)	293.1
34690 02	Metal stampings, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	(X)	151.5	(X)	60.9

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments (million dollars)	Value of product shipments (million dollars)
	PLATING AND POLISHING			
3471- --	Total	(NA)	1,775.1	993.4
34710 11	Electroplating, plating, and polishing	(NA)	1,775.1	993.4
	METAL COATING AND ALLIED SERVICES			
3479- --	Total	(NA)	1,520.5	682.0
34790 --	Coating, engraving, and allied services, n.e.c.:			
34790 13	Printing, etching, and engraving metal name plates	54	56.3	41.2
34790 19	Other engraving	26	35.3	23.5
34790 31	Galvanizing and other hot-dip coating	87	387.5	[9]174.7
	Organic coatings, enamels, and lacquers, including alkydes, vinyls, acrylics, plastisols, etc.:			
34790 61	Coil coating	24	296.1	123.1
34790 71	Spray coating, including electrostatic coating	210	265.0	112.9
34790 81	All other, including curtain coating, wash coating, etc	88	213.9	116.7
34790 00	Metal coating and allied services, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	[10]211.4	79.9
34790 02	Metal coating and allied services, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	55.0	10.0

Footnotes are on next page.

Table 6a. **Products and Product Classes — Quantity and Value of Production by All Producers: 1977 and 1972** — Con.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1972, product codes 34525 04 and 34525 89 were included with product code 34525 00.

[4]For 1977, product code 34636 21 was combined with product code 34636 25 to avoid disclosing operations of individual companies.

[5]Due to significant product revisions in 1977, comparable data are not available for 1972. However, for 1972, shipments of aluminum and aluminum-base alloy amounted to 60.0 short tons at $136.7 million; copper and copper-base alloy, 30.1 short tons at $61.9 million; titanium and titanium-base alloy, 6.3 short tons at $66.6 million; and other nonferrous metal forgings, 3.2 short tons at $10.6 million.

[6]Job stampings are mainly parts which are sold to other manufacturers for incorporation into their own products, and may be made from materials owned by customers. Figures represents only those stampings made from materials owned by establishments performing the stamping operation.

[7]For 1972, product codes 34692 52, 34692 53, and 34692 89 were included with product code 34692 98.

[8]Data are limited to vitreous-enameled products produced from materials owned by producing company. Data do not include value or receipts for enameled work done on materials owned by others (enameled product for the trade).

[9]Revised to include galvanized metal shipped by establishments consuming ungalvanized metal, in the same form, to which they hold title.

[10]In 1977, in a new procedure, small establishments with more than 5 employees reported on short forms which requested only product class totals. These data are included in codes ending with "0 00." Thus 1977 data for product codes (7 digits) may not be completely comparable with 1972 data.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34511, AUTOMOTIVE SCREW MACHINE PRODUCTS, NONSTANDARD		
United States	598.4	245.7
New England Division:		
Massachusetts	10.1	BB
Connecticut	28.7	8.8
Middle Atlantic Division:		
New York	28.1	9.4
New Jersey	5.1	2.8
Pennsylvania	9.7	2.3
East North Central Division:		
Ohio	66.7	30.0
Indiana	17.1	6.9
Illinois	109.2	42.0
Michigan	253.7	119.0
Wisconsin	9.2	6.1
West North Central Division:		
Missouri	9.8	1.9
East South Central Division:		
Tennessee	4.8	BB
Pacific Division:		
California	11.2	BB
34512, OTHER SCREW MACHINE PRODUCTS, NONSTANDARD		
United States	958.6	638.7
New England Division:		
Massachusetts	51.5	34.5
Rhode Island	8.7	6.2
Connecticut	73.2	50.6
Middle Atlantic Division:		
New York	53.7	51.6
New Jersey	48.3	27.2
Pennsylvania	57.8	26.0
East North Central Division:		
Ohio	128.8	80.7
Indiana	49.4	33.4
Illinois	139.1	116.9
Michigan	126.1	63.9
Wisconsin	40.8	20.6
West North Central Division:		
Minnesota	21.2	18.5
Iowa	7.7	4.7
Missouri	24.2	20.0
Nebraska	3.7	AA
South Atlantic Division:		
Georgia	4.6	AA
Florida	9.2	4.0
East South Central Division:		
Tennessee	5.1	3.0
West South Central Division:		
Texas	12.3	4.4
Mountain Division:		
Colorado	4.0	(NA)
Pacific Division:		
Oregon	3.2	1.9
California	65.0	48.7
34524, EXTERNALLY THREADED FASTENERS, EXCEPT AIRCRAFT		
United States	1,451.2	979.5
New England Division:		
Massachusetts	45.6	35.3
Rhode Island	23.8	EE
Connecticut	59.9	37.7
34524, EXTERNALLY THREADED FASTENERS, EXCEPT AIRCRAFT--Con.		
Middle Atlantic Division:		
New York	14.7	29.1
New Jersey	8.4	12.7
Pennsylvania	149.4	87.5
East North Central Division:		
Ohio	234.4	168.1
Indiana	40.4	52.3
Illinois	388.4	259.3
Michigan	168.7	97.6
West North Central Division:		
Minnesota	13.4	BB
South Atlantic Division:		
Virginia	39.5	EE
East South Central Division:		
Kentucky	52.3	FF
Alabama	29.2	26.9
West South Central Division:		
Texas	25.2	CC
Pacific Division:		
Washington	7.2	CC
California	39.3	22.9
34525, INTERNALLY THREADED FASTENERS, EXCEPT AIRCRAFT		
United States	412.6	248.5
New England Division:		
Massachusetts	7.2	3.0
Connecticut	13.8	7.3
Middle Atlantic Division:		
New York	11.7	66.2
New Jersey	39.3	27.7
Pennsylvania	53.5	27.4
East North Central Division:		
Ohio	60.3	44.8
Illinois	61.1	FF
Michigan	98.5	58.5
East South Central Division:		
Alabama	4.3	BB
Pacific Division:		
California	13.8	BB
34526, NONTHREADED FASTENERS, EXCEPT AIRCRAFT		
United States	517.2	353.2
New England Division:		
Massachusetts	21.9	14.3
Rhode Island	2.6	1.3
Connecticut	49.1	25.2
Middle Atlantic Division:		
New York	45.2	19.0
New Jersey	37.5	17.8
Pennsylvania	74.4	72.8
East North Central Division:		
Ohio	55.8	73.5
Indiana	5.4	BB
Illinois	85.4	55.8
Michigan	34.3	19.7
Wisconsin	41.5	26.5
West North Central Division:		
Minnesota	4.0	AA
Pacific Division:		
California	28.5	7.9

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34527, AIRCRAFT AEROSPACE FASTENERS		
United States	237.9	157.8
New England Division:		
Connecticut	3.8	CC
East North Central Division:		
Michigan	3.2	10.1
Pacific Division:		
California	173.6	GG
34528, OTHER FORMED PARTS, MADE ON FASTENER MACHINES		
United States	284.6	140.3
New England Division:		
Connecticut	5.2	5.2
Middle Atlantic Division:		
New York	3.5	4.6
East North Central Division:		
Ohio	37.8	16.2
Illinois	38.7	19.6
Michigan	74.4	42.4
Pacific Division:		
California	36.9	CC
34625, HOT IMPRESSION DIE IMPACT STEEL FORGINGS		
United States	2,155.4	(NA)
New England Division:		
Massachusetts	76.0	(NA)
Connecticut	25.0	(NA)
Middle Atlantic Division:		
New York	121.3	(NA)
Pennsylvania	136.4	(NA)
East North Central Division:		
Ohio	434.4	(NA)
Indiana	116.1	(NA)
Illinois	363.9	(NA)
Michigan	298.8	(NA)
Wisconsin	162.6	(NA)
East South Central Division:		
Tennessee	19.1	(NA)
West South Central Division:		
Texas	203.6	(NA)
Pacific Division:		
California	48.1	(NA)
34626, COLD IMPRESSION DIE IMPACT STEEL FORGINGS		
United States	215.7	(NA)
East North Central Division:		
Ohio	118.9	(NA)
Michigan	89.7	(NA)
34627, SEAMLESS ROLLED RING FERROUS FORGINGS		
United States	113.8	(NA)
Middle Atlantic Division:		
New York	10.8	(NA)
Pacific Division:		
California	23.6	(NA)
34628, OPEN DIE OR SMITH FERROUS FORGINGS (PLANTS)		
United States	384.7	(NA)
Middle Atlantic Division:		
New York	8.2	(NA)
Pennsylvania	161.8	(NA)
East North Central Division:		
Ohio	28.2	(NA)
Illinois	36.3	(NA)
Wisconsin	11.9	(NA)
West South Central Division:		
Texas	30.4	(NA)
Pacific Division:		
California	30.3	(NA)
34635, HOT IMPRESSION DIE IMPACT NONFERROUS FORGINGS		
United States	468.1	(NA)
New England Division:		
Connecticut	18.6	(NA)
Middle Atlantic Division:		
Pennsylvania	66.6	(NA)
East North Central Division:		
Michigan	36.7	(NA)
Pacific Division:		
California	89.2	(NA)
34638, OPEN DIE OR SMITH NONFERROUS FORGINGS		
United States	36.8	(NA)
Pacific Division:		
California	22.0	(NA)
34661, METAL COMMERCIAL CLOSURES		
United States	470.7	274.6
Middle Atlantic Division:		
New York	22.1	CC
Pennsylvania	98.6	GG
East North Central Division:		
Indiana	108.1	GG
Illinois	110.7	73.3
South Atlantic Division:		
Maryland	4.1	4.4
Pacific Division:		
California	44.6	FF

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34692, JOB STAMPINGS, EXCEPT AUTOMOTIVE		
United States	2,199.3	1,283.1
New England Division:		
New Hampshire	3.8	AA
Massachusetts	75.4	39.3
Rhode Island	12.8	14.7
Connecticut	94.8	60.1
Middle Atlantic Division:		
New York	157.6	122.0
New Jersey	129.4	66.2
Pennsylvania	143.1	91.5
East North Central Division:		
Ohio	352.3	179.9
Indiana	73.2	37.1
Illinois	424.4	267.4
Michigan	108.2	57.0
Wisconsin	160.6	94.2
West North Central Division:		
Minnesota	82.0	51.7
Iowa	13.4	20.1
Missouri	30.3	16.0
South Atlantic Division:		
West Virginia	9.4	5.0
North Carolina	14.6	3.1
Georgia	3.9	(NA)
Florida	5.2	6.6
East South Central Division:		
Kentucky	44.3	24.8
Tennessee	27.0	EE
West South Central Division:		
Oklahoma	4.1	BB
Texas	9.4	6.0
Mountain Division:		
Colorado	2.0	BB
Pacific Division:		
Oregon	9.1	BB
California	153.8	64.3
34694, STAMPED AND SPUN UTENSILS, COOKING, ALUMINUM		
United States	330.1	205.0
Middle Atlantic Division:		
New York	6.3	6.7
East North Central Division:		
Illinois	16.5	CC
Wisconsin	115.9	87.6
Pacific Division:		
California	2.8	(NA)
34695, STAMPED AND SPUN COOKING UTENSILS, EXCEPT ALUMINUM		
United States	385.4	184.4
Middle Atlantic Division:		
New Jersey	10.2	(NA)
Pennsylvania	27.3	AA
East North Central Division:		
Ohio	54.2	EE
Illinois	103.9	53.8
Wisconsin	60.4	39.4
Pacific Division:		
California	3.9	BB
34699, OTHER STAMPED AND PRESSED METAL END PRODUCTS		
United States	1,073.0	588.4
New England Division:		
Massachusetts	64.9	33.6
Rhode Island	14.7	6.7
Connecticut	68.4	17.3
Middle Atlantic Division:		
New York	45.2	52.2
New Jersey	54.2	37.4
Pennsylvania	55.9	45.3
East North Central Division:		
Ohio	90.0	80.7
Indiana	7.3	28.2
Illinois	100.4	63.2
Michigan	47.5	27.4
Wisconsin	45.7	13.3
West North Central Division:		
Minnesota	18.5	7.6
Iowa	72.0	(NA)
Missouri	31.5	28.0
South Atlantic Division:		
Maryland	9.2	1.7
South Carolina	5.2	CC
Georgia	8.8	8.4
Florida	25.7	4.0
East South Central Division:		
Kentucky	25.2	14.0
Tennessee	48.6	16.5
Alabama	13.2	CC
West South Central Division:		
Texas	15.6	CC
Mountain Division:		
Colorado	5.6	AA
Arizona	5.5	(NA)
Pacific Division:		
Washington	2.8	(NA)
California	123.6	57.1

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3451-	Screw machine products	1,771.4	1,569.2	1,480.8	1,656.9	1,517.1	1,083.1	1,036.1	599.4
34511	Automotive screw machine products, nonstandard	598.4	524.1	421.1	494.1	349.3	245.7		
34512	Other screw machine products, nonstandard	958.6	877.3	900.6	945.6	943.6	638.7	1,036.1	599.4
34510	Screw machine products, n.s.k.	214.4	(167.8)	(159.1)	217.2	224.2	198.7		
3452-	Bolts, nuts, rivets, and washers	3,130.3	2,839.6	2,462.0	2,878.9	2,331.6	1,988.4	1,613.1	1,175.7
34524	Externally threaded fasteners, except aircraft	1,451.2	1,416.1	1,216.2	1,383.8	1,082.0	979.5		
34525	Internally threaded fasteners, except aircraft	412.6	380.5	295.6	358.8	293.1	248.5		
34526	Nonthreaded fasteners, except aircraft	517.2	439.3	362.8	478.9	371.8	353.2	1,345.4	1,084.5
34527	Aircraft aerospace fasteners	237.9	216.9	243.5	249.6	187.1	157.8		
34528	Other formed parts, made on fastener machines	284.6	359.5	319.3	341.5	247.2	140.3	195.9	76.7
34520	Bolts, nuts, rivets, and washers, n.s.k.	226.8	(S)	(S)	(66.3)	150.4	109.1	71.8	14.5
3462-	Iron and steel forgings	2,966.7	2,693.2	2,425.0	2,362.0	1,894.3	1,838.7	1,342.1	954.9
34625	Hot impression die impact steel forgings	2,155.4							
34626	Cold impression die impact steel forgings	215.7							
34627	Seamless rolled ring ferrous forgings	113.8	2,693.2	2,425.0	2,362.0	1,894.3	1,838.7	1,342.1	954.9
34628	Open die or smith ferrous forgings (plants)	384.7							
34620	Iron and steel forgings, n.s.k.	97.1							
3463-	Nonferrous forgings	540.4	508.6	511.2	466.0	370.4	280.8	348.1	198.4
34635	Hot impression die impact nonferrous forgings	468.1							
34636	Cold impression die impact nonferrous forgings	8.5							
34637	Seamless rolled ring nonferrous forgings	15.9	508.6	511.2	466.0	370.4	280.8	348.1	198.4
34638	Open die or smith nonferrous forgings	36.8							
34630	Nonferrous forgings, n.s.k.	11.1							
34650	Automotive job stampings	9,599.8	8,004.7	5,923.7	6,199.3	6,025.7	5,155.8	3,178.2	2,548.0
3466-	Crowns and closures	581.0	530.0	509.3	432.9	368.9	339.4	290.0	229.9
34661	Metal commercial closures	470.7	435.7	415.7	356.2	301.2	274.6	204.6	147.9
34662	Metal crowns for glass and metal containers	104.8	94.3	93.6	76.7	67.7	64.8	85.4	82.0
34660	Crowns and closures, n.s.k.	5.6	-	-	-	-	-	-	-
3469-	Metal stampings, n.e.c.	4,554.5	4,112.0	3,336.5	3,627.5	2,982.0	2,614.9	2,057.0	1,405.6
34692	Job stampings, except automotive	2,199.3	2,349.7	1,918.0	2,127.8	1,580.4	1,283.1	1,076.9	756.7
34694	Stamped and spun utensils, cooking, aluminum	330.1	310.3	267.6	270.8	219.0	205.0	148.2	95.7
34695	Stamped and spun cooking utensils, except aluminum	385.4	300.1	240.9	232.3	208.8	184.4	141.6	134.3
34699	Other stamped and pressed metal end products	1,073.0	994.1	761.9	764.0	641.9	588.4	444.2	320.8
34690	Metal stampings, n.e.c., n.s.k.	566.7	(157.8)	(148.1)	(232.6)	331.9	354.0	246.1	98.1
34710	Electroplating, plating, and polishing	1,775.1	1,484.0	1,227.6	1,234.6	1,241.7	993.4	756.1	501.9
34790	Coating, engraving, and allied services, n.e.c.	1,520.5	1,254.4	1,028.1	926.6	752.3	682.0	404.3	286.5

- Represents zero. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3451, SCREW MACHINE PRODUCTS					
	Materials, parts, containers, and supplies	.....	(X)	619.2	(X)	347.3
	Mill shapes, and forms, except castings:					
	Carbon steel:					
331011	Bar and bar shapes	1,000 s. tons..	**301.9	171.8	333.4	109.4
331012	Sheet and strip		*16.0	6.2	21.1	5.7
331013	Plates		(S)	.1	(Z)	(Z)
331017	Wire and wire products		49.8	23.9	12.2	3.5
331019	All other		(S)	4.9	6.9	2.7
	Alloy steel, except stainless:					
331021	Bar and bar shapes		*24.7	20.7	40.2	16.4
331029	All other		*8.2	5.1	3.5	2.1
	Stainless steel mill shapes and forms:					
331033	Sheet and strip		1.3	2.8	1.6	2.5
331050	All other	1,000 s. tons..	**11.6	26.3	8.2	14.9
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb.....	(S)	2.0	3.6	2.7
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		99.3	68.6	93.0	55.6
335143	Plate, sheet, and strip, including military cups and discs		2.7	2.6	3.9	2.3
335152	Pipe and tube		1.1	.7	.9	.6
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	.4	1.2	1.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**15.9	15.0	14.8	10.2
335008	All other (wire, rolled rod and bar, powder, welded tubing, etc.)		*8.5	6.8	9.4	5.7
335616	Nickel and nickel-base alloy	Million lb.....	(S)	.8	(NA)	(2)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons..	**1.4	1.2	(X)	5.6
332045	Steel		(D)	(3)	1.2	1.1
	Iron and steel forgings:					
346201	Cold		(S)	5.4	(NA)	(2)
346209	Other	1,000 s. tons..	(D)	(3)	(NA)	(2)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	**.4	.2	(NA)	(2)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	1.2	(X)	.7
265001	Paperboard boxes and containers	.....	(X)	2.9	(NA)	(2)
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	6.5	(NA)	(2)
970099	All other materials and components, part, containers, and supplies	.....	(X)	362.1	(X)	243.4
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	181.0	(X)	61.1
	INDUSTRY 3452, BOLTS, NUTS, RIVETS, AND WASHERS					
	Materials, parts, containers, and supplies	.....	(X)	1,229.9	(X)	702.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons...	*336.7	129.2	406.2	88.6
331012	Sheet and strip		220.5	81.3	151.1	40.6
331013	Plates		22.2	5.7	36.5	5.7
331017	Wire and wire products		612.0	295.7	802.4	206.3
331019	All other		*240.6	84.3	174.8	34.0
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*74.3	41.9	57.8	20.8
331029	All other		163.6	72.1	78.8	26.4
	Stainless steel mill shapes and forms:					
331033	Sheet and strip		*4.7	11.6	4.2	5.6
331050	All other	1,000 s. tons...	20.0	44.3	16.0	25.5
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb.....	(NA)	(5)	2.4	1.8
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		25.3	26.6	36.6	30.6
335143	Plate, sheet, and strip, including military cups and discs		**13.2	16.4	3.9	4.6
335152	Pipe and tube		(NA)	(5)	.3	.3
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		2.2	2.0	2.7	1.8
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		3.0	3.0	3.0	1.6
335008	All other wire, rolled rod and bar, powder, welded tubing, etc		13.7	14.8	17.1	9.8
335616	Nickel and nickel-base alloy	Million lb.....	*2.2	8.3	(NA)	(6)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons...	6.3	5.5	1.4	.8
332045	Steel		(S)	1.6	.5	.5
	Iron and steel forgings:					
346201	Cold		(NA)	(5)	(NA)	(6)
346209	Other	1,000 s. tons...	3.1	3.5	(NA)	(6)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	1.5	2.1	(NA)	(6)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	2.0	(NA)	1.6
265001	Paperboard boxes and containers	.....	(X)	13.9	(NA)	(6)
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	47.6	(NA)	(6)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	5197.1	(X)	6145.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	119.4	(X)	49.9

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3462, IRON AND STEEL FORGINGS					
	Materials, parts, containers, and supplies		(X)	1,297.7	(X)	674.9
	Iron and steel forgings:					
346201	Cold	1,000 s. tons	(S)	10.5	(X)	(7)
346209	Other		(S)	7.8	(X)	(7)
	Carbon steel:					
331041	Ingots		480.1	163.4	9.2	2.1
331042	Blooms, billets, and slabs				565.0	102.4
331043	Bars		1,009.6	358.0	964.0	204.0
	Alloy steel, except stainless:					
331044	Ingots		298.0	158.0	307.2	94.1
331045	Blooms, billets, and slabs		481.9	236.0	410.5	112.7
331046	Bars					
	Stainless steel:					
331047	Ingots		10.7	16.3	13.2	10.7
331048	Blooms, billets, and slabs		12.8	18.9	11.2	11.0
331049	Bars					
	Aluminum and aluminum-base alloy:					
333471	Ingots	1,000 s. tons	(D)	(D)	(D)	(D)
335001	Mill shapes	Million lb	1.2	1.3	1.6	1.3
	Titanium and titanium-base alloy:					
335627	Ingots		9.2	27.2	10.4	21.3
335628	Mill shapes		.7	3.8	.8	2.1
335107	Copper and copper-base alloy forging stock		(S)	.4	(X)	(7)
335693	Molybdenum and molybdenum-base alloy forging stock		(D)	(D)	(D)	(D)
335698	Vanadium and vanadium-base alloy forging stock		(D)	(D)	-	-
335699	Manganese and manganese-base alloy forging stock	Million lb	(D)	(D)	(D)	(D)
346310	Aluminum forgings, including impact extrusions	1,000 s. tons	(D)	(D)	(X)	(7)
970099	All other materials and components, parts, containers, and supplies		(X)	171.8	(X)	790.2
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	121.4	(X)	21.8
	INDUSTRY 3463, NONFERROUS FORGINGS					
	Materials, parts, containers, and supplies		(X)	198.8	(X)	101.6
	Iron and steel forgings:					
346201	Cold	1,000 s. tons	-	-	(8)	(8)
346209	Other		(D)	(D)	(8)	(8)
	Carbon steel:					
331041	Ingots		-	-	-	-
331042	Blooms, billets, and slabs		.3	.2	.6	.2
331043	Bars				.3	.1
	Alloy steel, except stainless:					
331044	Ingots		-	-		
331045	Blooms, billets, and slabs		6.7	15.4	(X)	10.9
331046	Bars					
	Stainless steel:					
331047	Ingots		-	-	1.0	1.5
331048	Blooms, billets, and slabs		1.3	3.3		
331049	Bars				1.4	1.3
	Aluminum and aluminum-base alloy:					
333471	Ingots	1,000 s. tons	(D)	(D)	27.4	21.2
335001	Mill shapes	Million lb	(D)	(D)	(D)	(D)
	Titanium and titanium-base alloy:					
335627	Ingots		**6.3	21.3	5.4	15.6
335628	Mill shapes		(S)	29.5		
335107	Copper and copper-base alloy forging stock		18.0	12.8	20.8	9.4
335693	Molybdenum and molybdenum-base alloy forging stock		-	-	(8)	(8)
335698	Vanadium and vanadium-base alloy forging stock		-	-	(8)	(8)
335699	Manganese and manganese-base alloy forging stock	Million lb	-	-	(D)	(D)
346310	Aluminum forgings, including impact extrusions	1,000 s. tons	(D)	(D)	(8)	(8)
970099	All other materials and components, parts, containers, and supplies		(X)	29.8	8(X)	838.9
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	9.5	(X)	2.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3465, AUTOMOTIVE STAMPINGS					
	Materials, parts, containers, and supplies	.....	(X)	4,862.3	(X)	2,480.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons.	404.1	137.2	129.3	27.7
331012	Sheet and strip		8,911.7	3,142.8	8,825.6	1,689.6
331013	Plates		42.2	16.1	65.5	12.5
331015	Structural shapes		(S)	9.2	(X)	1.2
331017	Wire and wire products		47.3	21.5	22.9	6.5
331014	Tin plate, tin free steel, terneplate, and blackplate		**56.7	22.8	47.7	11.2
331019	All other		**103.0	41.6	90.0	18.7
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	7.6	1.4	1.1
331029	All other		250.6	109.0	58.3	14.0
	Stainless steel:					
331033	Sheet and strip		54.2	93.1	47.1	55.9
331050	All other	1,000 s. tons.	(S)	22.2		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb....	(S)	.2	.2	.2
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(NA)	(9)	(X)	.7
335143	Plate, sheet, and strip, including military cups and discs		**6.5	8.4	15.1	17.7
335152	Pipe and tube		(S)	5.4	(X)	.2
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**120.6	115.4	47.8	32.4
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*11.4	17.7	1.3	.8
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb....	(S)	5.9	1.0	.9
333348	Zinc and zinc-base alloy refinery shapes	1,000 s. tons.	(S)	27.9	(X)	5.0
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons.	(NA)	(9)	(10)	(10)
336100	Aluminum and aluminum-base alloy	Million lb....	*.2	.3	(10)	(10)
336200	Copper and copper-base alloy	Million lb....	(NA)	(9)	.1	.2
341151	Lids, ends, and parts for metal cans	.....	(X)	(9)	(10)	(10)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb....	(S)	11.4	(X)	4.1
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	23.9	(10)	(10)
265001	Paperboard boxes and containers	.....	(X)	32.2	(X)	12.5
260003	Paper and paperboard products, except paperboard boxes and containers	.....	(X)	4.3	(10)	(10)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	21.5	(X)	116.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	67.7	(X)	1139.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	55.8	(X)	1131.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	9676.4	(X)	10427.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	164.8	(X)	64.2
	INDUSTRY 3466, CROWNS AND CLOSURES					
	Materials, parts, containers, and supplies	.....	(X)	266.1	(X)	166.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(12)	(12)	(Z)	(Z)
331012	Sheet and strip		*21.7	9.4	(NA)	(NA)
331013	Plates		-	-	(NA)	(NA)
331015	Structural shapes		-	-	-	-
331017	Wire and wire products		(NA)	(12)	(NA)	(NA)
331014	Tin plate, tin free steel, terneplate, blackplate		**234.6	113.0	237.6	56.4
331019	All other		-	-	(NA)	(NA)
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	.2	(Z)	(Z)
331029	All other		-	-	(Z)	(Z)
	Stainless steel:					
331033	Sheet and strip		(NA)	(12)	(NA)	(NA)
331050	All other	1,000 s. tons..	-	-	-	-
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb.....	-	-	-	-
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		-	-	(Z)	(Z)
335143	Plate, sheet, and strip, including military cups and discs		-	-	(Z)	(Z)
335152	Pipe and tube		-	-	-	-
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		*51.1	39.3	(NA)	(NA)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(NA)	(12)	(Z)	(Z)
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.....	-	-	(NA)	(NA)
333348	Zinc and zinc-base alloy refinery shapes	1,000 s. tons..	(NA)	(12)	(NA)	(NA)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons..	(NA)	(12)	-	-
336100	Aluminum and aluminum-base alloy	Million lb.....	-	-	-	-
336200	Copper and copper-base alloy	Million lb.....	-	-	-	-

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3466, CROWNS AND CLOSURES--Con.					
341151	Lids, ends, and parts for metal cans		-	-	(X)	(NA)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	*62.1	24.7	22.4	4.4
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	2.9	(X)	(NA)
265001	Paperboard boxes and containers		(X)	9.1	(X)	3.9
260003	Paper and paperboard products, except paperboard boxes and containers		(X)	10.8	(X)	[11]7.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	11.3	(X)	[11]8.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	.3	(X)	(NA)
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	.6	(X)	[11](Z)
970099	All other materials and components, parts, containers, and supplies		(X)	[12]40.0	(X)	37.2
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	4.5	(X)	49.2
	INDUSTRY 3469, METAL STAMPINGS, N.E.C.					
	Materials, parts, containers, and supplies		(X)	2,030.9	(X)	1,083.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	32.1	42.7	10.7
331012	Sheet and strip		**1,462.3	543.7	1,256.5	262.9
331013	Plates		(S)	23.8	220.9	49.0
331015	Structural shapes		(S)	7.1	11.1	2.3
331017	Wire and wire products		(S)	12.0	27.8	8.5
331014	Tin plate, tin free steel, terneplate, and blackplate		*81.2	37.6	149.6	38.1
331019	All other		(S)	43.5	41.0	9.9
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	7.4	6.4	3.8
331029	All other		(S)	51.4	33.0	19.3
	Stainless steel:					
331033	Sheet and strip		*53.2	99.7	42.8	54.2
331050	All other	1,000 s. tons	**9.2	22.1	6.0	10.2
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb	*.2	.2	.7	.7
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	4.8	4.8	3.9
	Plate, sheet, and strip, including military cups and discs		**49.5	65.3	40.2	36.5
335152	Pipe and tube		2.6	3.1	3.3	2.8
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**203.8	172.5	233.2	100.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	5.2	14.0	7.6
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb	(S)	7.8	22.8	12.0
333348	Zinc and zinc-base alloy refinery shapes	1,000 s. tons	(S)	3.1	(D)	(D)
	Castings (rough and semifinished):[13]					
332011	Iron (gray and malleable)	1,000 s. tons	(S)	3.1	4.7	4.4
336100	Aluminum and aluminum-base alloy	Million lb	5.4	6.4	6.1	4.1
336200	Copper and copper-base alloy	Million lb	1.7	1.7	(D)	(D)
341151	Lids, ends, and parts for metal cans		(X)	.5	(X)	[14]
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(S)	5.9	9.7	2.7
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	26.1	(X)	[14]
265001	Paperboard boxes and containers		(X)	37.8	(X)	22.8
260003	Paper and paperboard products, except paperboard boxes and containers		(X)	5.7	(X)	[11]17.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	18.9	(X)	[11]11.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	25.6	(X)	[11]23.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	16.4	(X)	[11]13.0
970099	All other materials, and components, parts, containers, and supplies		(X)	337.6	(X)	[14]180.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	402.8	(X)	173.0

1977 material code	Material	Unit of measure	1977, quantity[1]	1977, delivered cost (million dollars)
	INDUSTRY 3471, PLATING AND POLISHING[15]			
	Materials, parts, containers, and supplies		(X)	538.1
289900	Foundry chemicals, metal treating compounds, and plating compounds		(X)	168.1
329101	Grinding wheels and other abrasive products, except industrial diamonds		(X)	9.9
331000	Steel mill shapes and forms except castings	1,000 s. tons	(S)	26.2
970099	All other materials and compounds, parts, containers, and supplies		(X)	123.1
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	210.8

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977, quantity[1]	1977, delivered cost (million dollars)
	INDUSTRY 3479, METAL COATING AND ALLIED SERVICES[15]			
	Materials, parts, containers, and supplies	.....	(X)	742.6
289900	Foundry chemicals, metal treating compounds, and plating compounds	.....	(X)	70.4
329101	Grinding wheels and other abrasive products, except industrial diamonds	.....	(X)	1.3
331000	Steel mill shapes and forms except castings	1,000 s. tons...	*926.4	236.6
970099	All other materials and components, parts, containers, and supplies	.....	(X)	280.2
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	154.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 335616, 346201, 346209, 282104, 265001, and 354401 were included with material code 970099.

[3]For 1977, material codes 332045 and 346209 were included with material code 970099 to avoid disclosing operations of individual companies.

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1977, material codes 335728, 335152, and 346201 were included with material code 970099 to avoid disclosing operations of individual companies.

[6]For 1972, material codes 335616, 346201, 346209, 282104, 265001, and 354401 were included with material code 970099.

[7]For 1972, material codes 346201, 346209, 335107, and 346310 were combined with material code 970099.

[8]For 1972, material codes 346201, 346209, 335693, 335698, and 346310 were included with material code 970099.

[9]For 1977, material codes 335102, 332011, 336200, and 341151 were combined with material code 970099 to avoid disclosing operations of individual companies.

[10]For 1972, material codes 332011, 336100, 341151, 307903, and 260003 were combined with material code 970099.

[11]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[12]For 1977, data for material codes 331011, 331017, 331033, 335405, 333348, and 332011 were included with material code 970099 to avoid disclosing operations for individual companies.

[13]Excludes quantities produced and consumed in same establishment.

[14]For 1972, material codes 341151 and 307903 were included with material code 970099.

[15]Materials consumed by kind data were not collected in 1972.

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DESCRIPTION OF INDUSTRIES

ORDNANCE AND ACCESSORIES, N.E.C.

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3482 Small Arms Ammunition
3483 Ammunition, Except for Small Arms, N.E.C.
3484 Small Arms
3489 Ordnance and Accessories, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3482, SMALL ARMS AMMUNITION

This industry comprises establishments primarily engaged in the manufacture of ammunition for small arms having a bore of 30 mm (or 1.18 inches) and below. Establishments primarily engaged in the manufacture of ammunition except for small arms are classified in industry 3483, blasting and detonating caps and safety fuses in industry 2892, and fireworks in industry 2899.

The total value of shipments for establishments classified in the Small Arms Ammunition industry amounted to $436 million in 1977, an increase of 19 percent from 1972. The value of shipments of products classified as primary to the industry was $404 million, an increase of 32 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were shotgun shells, for which shipments increased 26 percent. Value added by manufacture, at $248 million in 1977, was 8 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.3 thousand employees, a decrease of 26 percent from 1972. The leading States in employment were Illinois, Arkansas, Missouri, and Minnesota, accounting for approximately 80 percent of the industry's 1977 employment. Data for these same States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3483, AMMUNITION, EXCEPT FOR SMALL ARMS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of ammunition, not elsewhere classified, or in loading and assembling ammunition over 30 mm (or over 1.18 inches) for naval, aircraft, antiaircraft, tank, coast, and field artillery, including component parts. This industry also includes establishments primarily engaged in manufacturing bombs, mines, torpedoes, grenades, depth charges, chemical warfare projectiles, and their component parts. Establishments primarily engaged in the manufacture of small arms ammunition are classified in industry 3482, explosives in industry 2892, and military pyrotechnics in industry 2899.

The total value of shipments for establishments classified in the Ammunition, Except for Small Arms, N.E.C. industry amounted to $775 million in 1977, a decrease of 34 percent from 1972. The value of shipments of products classified as primary to the industry was $629 million, a decrease of 37 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $483 million in 1977, was 33 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 20.5 thousand employees, a decrease of 63 percent from 1972. The leading States in

employment were Texas, Minnesota, Ohio, and California, accounting for approximately 45 percent of the industry's 1977 employment. Data for these same States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3484, SMALL ARMS

This industry comprises establishments primarily engaged in the manufacture of small firearms having a bore 30 mm (or 1.18 inches) and below, and parts for small firearms. This industry also includes establishments primarily engaged in the manufacture of certain weapons over 30 mm which are carried and employed by the individual, such as grenade launchers and heavy field machine guns. Establishments primarily engaged in the manufacture of artillery and mortars having a bore over 30 mm (or over 1.18 inches) and component parts are classified in industry 3489.

The total value of shipments for establishments classified in the Small Arms industry amounted to $755 million in 1977, an increase of 92 percent from 1972. The value of shipments of products classified as primary to the industry was $663 million, an increase of 99 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were centerfire pistols and revolvers, for which shipments increased 89 percent, and repeating single barrel shotguns, for which shipments increased 59 percent. Value added by manufacture, at $482 million in 1977, was 73 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 17.5 thousand employees, an increase of 9 percent from 1972. The leading States in employment were Connecticut, Massachusetts, New York, and Vermont, accounting for approximately 80 percent of the industry's 1977 employment. Data for these same States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3489, ORDNANCE AND ACCESSORIES, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of ordnance and accessories, not elsewhere classified, such as naval, aircraft, antiaircraft, tank, coast, and field artillery having a bore over 30 mm (or over 1.18 inches) and components. Establishments primarily engaged in the manufacture of small arms and parts 30 mm (or 1.18 inches) and below are classified in industry 3484, tanks in industry 3795, and guided missiles in industry group 376.

The total value of shipments for establishments classified in the Ordnance and Accessories, N.E.C. industry amounted to $734 million in 1977, an increase of 56 percent from 1972. The value of shipments of products classified as primary to the industry was $483 million, an increase of 42 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were guns, howitzers, mortars, and related equipment, over 30 mm, for which shipments increased 29 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $559 million in 1977, was 66 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 23.6 thousand employees, a decrease of 4 percent from 1972. The leading States in employment were Missiouri, California, Minnesota, and Colorado, accounting for approximately 60 percent of the industry's 1977 employment. Data for these same States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3482, SMALL ARMS AMMUNITION[3]																
1977 Census.	59	65	16	10.3	138.1	7.7	15.4	95.3	247.5	183.0	436.2	42.9	(NA)	117.6	95	90
1976 ASM....	(NA)	(NA)	(NA)	11.3	141.5	8.7	17.6	100.0	257.6	169.2	418.5	11.3	175.0	122.1	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	12.1	141.5	9.3	19.1	101.4	268.4	183.0	442.0	9.7	166.1	110.9	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	12.0	131.1	9.5	19.9	96.4	243.8	166.5	384.7	10.4	210.2	116.5	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	13.0	125.8	9.7	19.9	89.3	233.4	138.4	372.5	8.2	202.6	94.5	(NA)	(NA)
1972 Census.	57	62	25	13.9	129.3	10.4	21.0	88.3	228.1	141.9	366.7	9.2	200.9	92.2	97	97
INDUSTRY 3483, AMMUNITION, EXCEPT SMALL ARMS, N.E.C.[3]																
1977 Census.	68	81	49	20.5	271.1	13.6	25.8	149.2	482.6	283.6	775.0	10.4	(NA)	86.3	83	76
1976 ASM....	(NA)	(NA)	(NA)	23.2	294.6	12.9	25.3	144.3	555.1	358.2	1 358.9	12.4	88.8	65.3	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	30.5	351.2	18.4	35.9	181.0	564.8	399.8	1 455.7	13.3	134.2	84.8	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	43.7	437.8	28.0	55.1	250.9	714.4	484.7	1 205.8	19.5	218.8	135.5	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	56.2	522.7	37.8	75.7	316.1	840.6	636.7	1 006.7	30.1	239.1	147.3	(NA)	(NA)
1972 Census.	77	95	77	54.9	479.1	36.8	73.2	277.3	970.6	646.1	1 173.4	23.6	220.6	131.3	83	84
INDUSTRY 3484, SMALL ARMS																
1977 Census.	105	112	46	17.5	237.8	13.1	27.1	157.3	481.5	286.7	754.9	20.5	(NA)	166.7	94	99
1976 ASM....	(NA)	(NA)	(NA)	18.9	232.9	14.0	28.6	156.2	569.0	239.7	800.6	21.5	214.8	165.7	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	18.6	219.5	14.0	28.2	144.2	429.2	210.9	627.1	18.5	195.8	157.0	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	17.7	184.7	12.7	27.2	123.9	364.3	172.5	520.8	13.9	170.0	125.8	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	16.7	163.1	12.2	25.6	109.4	314.7	139.1	448.9	10.9	166.5	111.4	(NA)	(NA)
1972 Census.	75	82	41	16.1	152.1	11.5	23.1	100.5	278.6	122.1	393.5	11.3	146.4	96.4	91	98
1971 ASM....	(NA)	(NA)	(NA)	16.9	149.0	12.2	24.5	93.7	249.6	129.1	379.7	9.6	150.7	88.7	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	20.5	163.3	14.7	29.4	102.4	287.9	154.3	452.1	11.1	145.9	91.5	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	23.2	175.7	16.7	33.8	111.9	304.5	166.4	462.2	12.8	134.6	103.9	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	20.3	155.9	14.9	32.5	103.3	284.9	164.7	446.9	12.5	119.4	93.0	(NA)	(NA)
1967 Census.	69	71	32	17.4	124.3	13.1	27.4	83.3	226.6	165.0	384.0	11.2	110.4	84.4	92	94
1966 ASM....	(NA)	(NA)	(NA)	15.4	105.5	11.4	24.2	69.4	197.1	97.1	274.0	10.0	(NA)	80.8	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	10.5	66.8	8.0	16.4	47.0	118.4	56.7	166.2	6.0	(NA)	46.6	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	10.5	62.8	7.8	16.2	46.1	123.7	37.7	155.1	4.5	70.4	44.9	(NA)	(NA)
1963 Census.	52	52	23	10.0	57.3	7.5	15.1	39.3	88.3	43.0	133.0	5.1	68.7	36.0	95	82
INDUSTRY 3489, ORDNANCE AND ACCESSORIES N.E.C.[3]																
1977 Census.	89	89	41	23.6	367.7	13.7	25.8	173.3	559.2	232.4	733.8	10.1	(NA)	176.2	81	68
1976 ASM....	(NA)	(NA)	(NA)	21.3	306.5	12.2	22.7	140.5	465.8	163.9	570.0	7.0	77.6	111.3	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	20.4	281.5	12.3	23.2	131.9	385.3	144.2	529.6	4.3	84.4	57.5	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	23.6	279.2	14.1	26.1	136.0	392.5	127.0	486.3	4.7	86.3	65.9	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	25.7	269.7	15.2	29.2	135.7	394.5	150.5	536.0	7.2	81.6	48.2	(NA)	(NA)
1972 Census.	75	76	36	24.6	254.8	14.5	27.5	124.8	336.4	133.3	469.5	9.3	77.3	33.3	76	67

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products Inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in Inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3482, SMALL ARMS AMMUNITION										
1977 Census..	13 453	(NA)	74	2 003	6.18	41	73	(NA)	24 113	55	16.05
1976 ASM.....	12 522	15 486	76	2 022	5.68	40	74	41	22 796	54	14.63
1975 ASM.....	11 694	13 727	76	2 053	5.30	41	73	37	22 181	52	14.05
1974 ASM.....	10 925	17 516	79	2 094	4.84	43	77	54	20 316	53	12.25
1973 ASM.....	9 676	15 584	74	2 051	4.48	37	70	54	17 953	53	11.72
1972 Census..	9 302	14 453	74	2 019	4.20	38	73	54	16 410	56	10.86
	INDUSTRY 3483, AMMUNITION, EXCEPT SMALL ARMS, N.E.C.										
1977 Census..	13 256	(NA)	66	1 891	5.79	36	71	(NA)	23 593	56	18.73
1976 ASM.....	12 698	3 827	55	1 961	5.70	26	48	6	23 926	53	21.94
1975 ASM.....	11 514	4 400	60	1 951	5.04	27	51	9	18 518	62	15.73
1974 ASM.....	10 018	5 006	64	1 967	4.55	40	76	18	16 347	61	12.96
1973 ASM.....	9 300	4 254	67	2 002	4.17	63	115	23	14 957	62	11.10
1972 Census..	8 726	4 018	67	1 989	3.78	55	96	19	17 679	49	13.26
	INDUSTRY 3484, SMALL ARMS										
1977 Census..	13 572	(NA)	74	2 061	5.81	37	69	(NA)	27 477	49	17.79
1976 ASM.....	12 322	11 365	74	2 042	5.46	29	59	26	30 105	40	19.89
1975 ASM.....	11 801	10 526	75	2 014	5.11	33	68	31	23 075	51	15.21
1974 ASM.....	10 435	9 604	71	2 141	4.55	33	68	32	20 581	50	13.39
1973 ASM.....	9 766	9 970	73	2 098	4.27	30	67	37	18 844	51	12.29
1972 Census..	9 447	9 093	71	2 008	4.35	31	69	37	17 304	54	12.06
1971 ASM.....	8 816	8 917	72	2 008	3.82	34	73	39	14 769	59	10.18
1970 ASM.....	7 965	7 117	71	2 000	3.48	34	70	32	14 043	56	9.79
1969 ASM.....	7 573	5 801	71	2 023	3.31	36	74	29	13 125	57	9.00
1968 ASM.....	7 679	5 881	73	2 181	3.17	36	71	26	14 034	54	8.76
1967 Census..	7 143	6 344	75	2 091	3.04	42	75	28	13 022	54	8.27
1966 ASM.....	6 850	(NA)	74	2 122	2.86	35	73	(NA)	12 798	53	8.14
1965 ASM.....	6 361	(NA)	76	2 050	2.86	34	74	(NA)	11 276	56	7.21
1964 ASM.....	5 980	6 704	74	2 076	2.84	24	64	45	11 780	50	7.63
1963 Census..	5 730	6 870	75	2 013	2.60	32	75	51	8 830	64	5.84
	INDUSTRY 3489, ORDNANCE AND ACCESSORIES N.E.C.										
1977 Census..	15 577	(NA)	58	1 881	6.71	31	81	(NA)	23 691	65	21.66
1976 ASM.....	14 389	3 643	57	1 860	6.18	28	82	13	21 868	65	20.51
1975 ASM.....	13 799	4 137	60	1 886	5.68	27	80	15	18 887	73	16.60
1974 ASM.....	11 830	3 656	59	1 851	5.21	26	83	17	16 631	71	15.03
1973 ASM.....	10 494	3 175	59	1 921	4.64	28	78	15	15 350	68	13.51
1972 Census..	10 357	6 349	58	1 896	4.53	28	83	16	13 675	76	12.23

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3482, SMALL ARMS AMMUNITION													
United States	-	**65**	**16**	**10.3**	**138.1**	**7.7**	**15.4**	**95.3**	**247.5**	**183.0**	**436.2**	**42.9**	**13.9**	**228.1**
New England Division:													
Connecticut	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East North Central Division:													
Illinois	-	4	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West North Central Division:													
Minnesota	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Missouri	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West South Central Division:													
Arkansas	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Mountain Division:													
Idaho	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:													
California	-	12	4	0.8	11.3	0.4	0.7	3.8	26.3	22.9	46.7	(D)	(NA)	(NA)
INDUSTRY 3483, AMMUNITION, EXCEPT FOR SMALL ARMS, N.E.C.													
United States	-	**81**	**49**	**20.5**	**271.1**	**13.6**	**25.8**	**149.2**	**482.6**	**283.6**	**775.0**	**10.4**	**54.9**	**970.6**
New England Division:													
Massachusetts	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Middle Atlantic Division:													
New York	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Jersey	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pennsylvania	-	6	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	4.0	41.0
East North Central Division:													
Ohio	-	7	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Illinois	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Wisconsin	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West North Central Division:													
Minnesota	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Iowa	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Missouri	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Kansas	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East South Central Division:													
Tennessee	-	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West South Central Division:													
Louisiana	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Texas	-	4	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Pacific Division:													
California	-	12	8	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
INDUSTRY 3484, SMALL ARMS													
United States	-	**112**	**46**	**17.5**	**237.8**	**13.1**	**27.1**	**157.3**	**481.5**	**286.7**	**754.9**	**20.5**	**16.1**	**278.6**
New England Division:													
Maine	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
New Hampshire	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Vermont	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Massachusetts	-	7	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Connecticut	-	20	12	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Middle Atlantic Division:													
New York	-	11	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West South Central Division:													
Arkansas	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:													
California	E3	12	2	0.2	1.8	0.1	0.2	1.2	4.0	1.7	5.7	0.1	BB	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3489, ORDNANCE AND ACCESSORIES, N.E.C.														
United States	-	**89**	**41**	**23.6**	**367.7**	**13.7**	**25.8**	**173.3**	**559.2**	**232.4**	**733.8**	**10.1**	**24.6**	**336.4**
Middle Atlantic Division:														
Pennsylvania	-	11	4	1.6	19.4	1.4	2.6	15.1	32.4	42.3	75.1	(D)	EE	(D)
East North Central Division:														
Ohio	-	4	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West North Central Division:														
Minnesota	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Missouri	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Nebraska	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Florida	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
East South Central Division:														
Tennessee	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	-	8	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mountain Division:														
Colorado	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Pacific Division:														
Oregon	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	18	10	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Small arms ammunition (SIC 3482)	Ammunition except for small arms, n.e.c. (SIC 3483)	Small arms (SIC 3484)	Ordnance and accessories, n.e.c. (SIC 3489)
Primary product specialization ratio[1]	percent	95	83	94	81
Coverage ratio[2]	do	90	76	99	68
All establishments	number	65	81	112	89
With 1 to 19 employees	do	49	32	66	48
With 20 to 99 employees	do	5	15	23	17
With 100 employees or more	do	11	34	23	24
All employees, average for year	1,000	10.3	20.5	17.5	23.6
Payroll for year, all employees	mil. dol.	138.1	271.1	237.8	367.7
Production workers:					
Average for year	1,000	7.7	13.6	13.1	13.7
March	do	7.8	13.1	13.3	13.4
May	do	7.8	13.1	13.3	13.5
August	do	7.7	13.7	13.1	13.7
November	do	7.5	14.6	12.8	14.2
Hours	millions	15.4	25.8	27.1	25.8
January to March	do	4.1	6.2	7.1	6.4
April to June	do	4.1	6.4	7.1	6.5
July to September	do	3.9	6.5	6.2	6.3
October to December	do	3.4	6.7	6.7	6.6
Wages	mil. dol.	95.3	149.2	157.3	173.3
Cost of materials, etc.	do	183.0	283.6	286.7	232.4
Materials, parts, containers, etc., consumed	do	167.0	248.9	232.1	198.7
Resales	do	(D)	(D)	40.7	(D)
Fuels consumed	do	5.8	12.5	3.4	6.3
Purchased electric energy	do	5.2	9.2	6.1	12.2
Contract work	do	(D)	(D)	4.4	(D)
Value of shipments, including resales	do	436.2	775.0	754.9	733.8
Value of resales	do	(D)	(D)	45.8	(D)
Value added by manufacture	do	247.5	482.6	481.5	559.2
Manufacturers' inventories:					
Beginning of year	do	121.9	95.1	153.5	123.9
Finished products	do	61.0	4.4	49.5	4.7
Work in process	do	26.0	74.0	78.6	99.5
Materials, supplies, fuel, etc.	do	34.9	16.7	25.4	19.7
End of year	do	117.6	86.3	166.7	176.2
Finished products	do	54.1	6.1	48.8	5.3
Work in process	do	27.1	63.5	92.7	156.7
Materials, supplies, fuel, etc.	do	36.3	16.7	25.3	14.2
Capital expenditures for plant and equipment	do	43.1	13.5	21.3	10.5
New capital expenditures	do	42.9	10.4	20.5	10.1
New buildings and other structures	do	5.7	2.0	6.1	1.3
New machinery and equipment	do	37.1	8.4	14.4	8.8
Used capital expenditures	do	0.2	3.2	0.9	0.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Small arms ammunition (SIC 3482)		Ammunition, except small arms (SIC 3483)		Small arms (SIC 3484)		Ordnance and accessories, n.e.c. (SIC 3489)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	(1.0)	(A)	2.4	1	1.4	1	4.0	8
Response coverage ratio[2] (percent)	95	(X)	51	(X)	83	(X)	49	(X)
Machinery	(2.9)	(A)	5.4	1	5.3	4	5.3	6
Response coverage ratio[2] (percent)	96	(X)	57	(X)	84	(X)	49	(X)
Cost of purchased communication services	(0.5)	(A)	2.1	3	1.8	13	4.2	5
Response coverage ratio[2] (percent)	69	(X)	68	(X)	83	(X)	51	(X)
Rental payments	(1.6)	(A)	4.3	1	6.4	12	6.7	3
Buildings and other structures	(0.4)	(A)	2.1	1	(3.3)	25	2.5	7
Machinery and equipment	(1.3)	90	2.2	1	3.1	9	4.2	2
Supplemental labor costs	35.7	2	60.6	1	52.1	2	75.8	1
Legal costs	(10.3)	43	23.6	1	18.0	2	30.0	1
Voluntary costs	(25.4)	19	32.9	1	34.1	3	45.8	1
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	(76.4)	16	21.4	1	44.8	6	10.4	12
New capital expenditures	5.6	7	1.8	2	5.8	5	(S)	(X)
Used capital expenditures	-	(X)	2.6	1	0.1	1	(S)	(X)
Retirements	(0.7)	79	0.6	1	(0.3)	20	(S)	(X)
End of year	(81.3)	15	25.3	1	50.3	5	12.8	10
Machinery and equipment:								
Beginning of year	152.5	1	52.5	2	168.8	4	57.4	5
New capital expenditures	36.8	5	6.2	1	16.1	9	9.5	4
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(D)	(A)	(S)	(X)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(D)	(A)	(S)	(X)
All other[3]	(36.5)	(A)	5.9	(A)	(14.7)	(A)	(S)	(X)
New machinery and equipment, n.s.k.[4]	(Z)	(A)	0.1	(A)	(1.0)	(A)	(0.1)	(A)
Used capital expenditures	0.2	1	0.3	1	0.7	2	(S)	(X)
Retirements	(3.4)	30	3.9	1	5.6	3	(S)	(X)
End of year	186.2	1	55.1	2	180.0	4	66.3	4
Total gross value of depreciable assets:								
Beginning of year	228.9	1	74.0	2	213.5	4	67.8	5
New capital expenditures	42.5	5	8.0	1	21.9	6	11.3	4
Used capital expenditures	0.2	1	2.9	1	0.8	2	0.2	3
Retirements	(4.1)	38	4.5	1	5.9	4	(0.3)	27
End of year	267.5	1	80.4	2	230.3	4	79.0	4
Depreciation charges during 1977	16.6	11	4.9	1	15.0	4	(5.0)	18
Buildings and other structures	2.9	2	1.1	1	1.7	5	1.3	5
Machinery and equipment	13.7	14	3.8	1	13.3	4	3.7	10

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3482, SMALL ARMS AMMUNITION												
Total	-	**65**	**10.3**	**138.1**	**7.7**	**15.4**	**95.3**	**247.5**	**183.0**	**436.2**	**42.9**	**117.6**
Establishments with an average of—												
1 to 4 employees	E8	40	(Z)	0.6	(Z)	0.1	0.4	1.4	1.1	2.5	0.1	1.1
5 to 9 employees	E3	5	(Z)	0.4	(Z)	0.1	0.3	0.9	1.5	2.5	0.1	1.8
10 to 19 employees	E5	4	0.1	0.6	(Z)	0.1	0.4	1.3	1.1	2.4	0.1	0.9
20 to 49 employees	E2	4	0.1	2.0	0.1	0.2	1.4	7.0	4.3	11.1	(32.0)	2.5
50 to 99 employees	-	1	(0.5)	(6.9)	(0.3)	(0.8)	(3.0)	(12.6)	(10.9)	(23.0)	(D)	(10.8)
100 to 249 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	2	(9.4)	(127.6)	(7.1)	(14.2)	(89.8)	(224.2)	(164.1)	(394.7)	(10.7)	(100.5)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	40	0.1	0.9	0.1	0.1	0.7	2.0	1.7	3.6	0.1	1.5
INDUSTRY 3483, AMMUNITION, EXCEPT FOR SMALL ARMS, N.E.C.												
Total	-	**81**	**20.5**	**271.1**	**13.6**	**25.8**	**149.2**	**482.6**	**283.6**	**775.0**	**10.4**	**86.3**
Establishments with an average of—												
1 to 4 employees	E1	25	(0.1)	(1.1)	(Z)	(0.1)	(0.5)	(2.8)	(10.9)	(13.5)	(D)	(0.9)
5 to 9 employees	E3	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	11	0.4	4.8	0.3	0.5	2.9	7.2	4.5	11.8	(1.1)	2.4
50 to 99 employees	-	4	0.4	3.4	0.3	0.5	2.4	8.9	8.5	16.7	(D)	1.2
100 to 249 employees	-	14	1.9	23.8	1.3	2.8	13.5	39.7	28.2	67.3	1.2	15.3
250 to 499 employees	-	8	3.2	41.3	2.2	4.4	25.1	81.0	46.2	129.8	(2.7)	20.2
500 to 999 employees	-	5	3.6	41.8	2.2	4.4	24.1	83.2	34.8	120.0	(D)	3.7
1,000 to 2,499 employees	-	6	(10.9)	(154.9)	(7.3)	(13.1)	(80.7)	(259.8)	(150.7)	(415.9)	(5.5)	(42.6)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	19	0.1	0.8	(Z)	0.1	0.4	1.2	1.1	2.3	(Z)	0.2
INDUSTRY 3484, SMALL ARMS												
Total	-	**112**	**17.5**	**237.8**	**13.1**	**27.1**	**157.3**	**481.5**	**286.7**	**754.9**	**20.5**	**166.7**
Establishments with an average of—												
1 to 4 employees	E6	36	0.1	0.8	0.1	0.1	0.5	2.6	1.1	3.7	0.1	0.7
5 to 9 employees	E6	19	0.1	1.5	0.1	0.2	1.0	3.3	1.7	5.1	0.1	1.0
10 to 19 employees	E2	11	0.2	1.9	0.1	0.3	1.1	4.5	3.0	7.4	(0.5)	1.8
20 to 49 employees	-	17	0.5	5.4	0.4	0.8	3.4	11.1	8.8	19.9	(D)	3.3
50 to 99 employees	-	6	0.4	4.2	0.4	0.7	3.3	7.4	5.5	12.8	(D)	2.2
100 to 249 employees	-	8	1.4	15.8	1.0	2.0	11.0	35.6	31.0	68.4	1.6	19.7
250 to 499 employees	-	5	1.9	25.3	1.5	3.3	18.2	58.1	28.7	84.8	1.9	18.7
500 to 999 employees	-	5	3.3	42.6	2.7	5.3	30.4	87.7	56.3	141.9	2.9	25.1
1,000 to 2,499 employees	-	5	9.6	140.4	6.9	14.3	88.5	271.0	150.5	410.9	13.4	94.3
Covered by administrative records[2]	E0	42	0.1	1.7	0.1	0.2	1.1	4.3	1.8	6.2	0.1	1.2
INDUSTRY 3489, ORDNANCE AND ACCESSORIES, N.E.C.												
Total	-	**89**	**23.6**	**367.7**	**13.7**	**25.8**	**173.3**	**559.2**	**232.4**	**733.8**	**10.1**	**176.2**
Establishments with an average of—												
1 to 4 employees	E9	35	(Z)	0.6	(Z)	(Z)	0.3	0.9	0.5	1.5	(Z)	0.3
5 to 9 employees	E0	7	0.1	0.7	(Z)	0.1	0.3	1.2	0.7	1.9	0.1	0.4
10 to 19 employees	E3	6	0.1	1.2	0.1	0.1	0.5	2.4	1.4	3.8	0.1	0.8
20 to 49 employees	E1	8	0.3	3.3	0.2	0.4	1.9	5.8	4.0	9.7	0.3	1.5
50 to 99 employees	-	9	0.7	7.6	0.5	1.0	4.7	18.2	18.5	36.8	0.5	4.7
100 to 249 employees	-	13	1.9	20.6	1.3	2.6	11.9	42.8	31.7	73.6	(9.1)	13.5
250 to 499 employees	-	2	(2.6)	(37.1)	(2.0)	(3.8)	(25.5)	(66.1)	(69.7)	(134.7)	(D)	(18.2)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	4	7.1	113.8	3.6	6.5	43.2	184.3	72.2	249.4	(D)	49.4
2,500 employees or more	-	3	10.9	182.8	6.0	11.4	85.1	237.5	33.8	222.6	(D)	87.3
Covered by administrative records[2]	E0	41	0.1	1.8	0.1	0.1	0.8	2.9	1.7	4.5	0.1	0.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown. E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3482	**Small arms ammunition:**										
	Entire industry	65	10.3	138.1	7.7	15.4	95.3	247.5	183.0	436.2	42.9
	Establishments with 75 percent specialization or more	62	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3483	**Ammunition, except for small arms, n.e.c.:**										
	Entire industry	81	20.5	271.1	13.6	25.8	149.2	482.6	283.6	775.0	10.4
	Establishments with 75 percent specialization or more	53	9.2	115.8	6.9	13.2	79.2	215.3	142.1	359.1	(D)
34831	Artillery ammunition, over 30mm.:										
	Establishments with this product class primary	24	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34832	Receipts for ammunition loading and assembly:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34833	Ammunition, except for small arms, n.e.c.:										
	Establishments with this product class primary	14	5.5	88.6	3.3	6.4	41.6	132.9	137.1	273.5	6.4
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3484	**Small arms:**										
	Entire industry	112	17.5	237.8	13.1	27.1	157.3	481.5	286.7	754.9	20.5
	Establishments with 75 percent specialization or more	108	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34841	Machine guns, 30mm. and under:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34842	Small arms, 30mm. and under:										
	Establishments with this product class primary	51	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	47	13.6	178.6	10.8	22.3	130.7	354.8	183.7	535.2	(D)
3489	**Ordnance and accessories, n.e.c.:**										
	Entire industry	89	23.6	367.7	13.7	25.8	173.3	559.2	232.4	733.8	10.1
	Establishments with 75 percent specialization or more	75	7.7	112.8	5.5	10.6	68.8	182.4	132.5	264.3	7.6
34891	Guns, howitzers, mortars, etc., over 30mm.:										
	Establishments with this product class primary	6	3.4	57.7	2.3	4.4	33.8	77.7	38.3	66.6	3.6
	Establishments with 75 percent specialization or more in class	3	0.1	1.1	0.1	0.1	0.6	1.8	2.0	3.7	(D)
34892	Ordnance and accessories, n.e.c.:										
	Establishments with this product class primary	32	8.6	118.7	5.7	10.7	61.6	227.9	180.8	400.7	6.3
	Establishments with 75 percent specialization or more in class	24	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3482	Small arms ammunition.....1977..	436.2	363.3	17.4	55.4	95	403.9	363.3	40.6	90
	1972..	366.7	298.7	7.9	60.1	97	306.4	298.7	7.7	97
	1967..	595.9	564.9	18.5	12.5	97	572.8	564.9	7.9	99
3483	Ammunition, except for small arms, n.e.c.....1977..	775.0	476.1	94.5	204.4	83	629.3	476.1	153.2	76
	1972..	1,173.4	832.6	175.2	165.6	83	991.2	832.6	158.6	84
	1967..	2,464.2	2,102.4	186.9	174.9	92	2,462.0	2,102.4	359.6	85
3484	Small arms.....1977..	754.9	657.0	45.4	52.5	94	662.6	657.0	5.6	99
	1972..	393.5	328.6	32.4	32.5	91	334.1	328.6	5.5	98
	1967..	384.0	340.8	27.9	15.3	92	361.7	340.8	20.9	94
3489	Ordnance and accessories, n.e.c.....1977..	733.8	329.9	77.9	326.0	81	483.3	329.9	153.4	68
	1972..	469.5	205.4	65.2	198.9	76	333.8	205.4	128.4	62
	1967..	687.5	522.7	127.2	37.6	80	857.6	522.7	334.9	61

n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Small arms ammunition (SIC 3482)	Ammunition, except for small arms, n.e.c. (SIC 3483)	Small arms (SIC 3484)	Ordnance and accessories, n.e.c. (SIC 3489)	Other industries
	Total	(X)	436.2	775.0	754.9	733.8	(X)
	Primary products	(X)	363.3	476.1	657.0	329.9	(X)
	Secondary products	(X)	17.4	94.5	45.4	77.9	(X)
	Miscellaneous receipts	(X)	55.4	204.4	52.5	326.0	(X)
34820	Small arms ammunition, 30 mm and under	403.9	363.3	27.0	(D)	(Z)	(D)
3483-	Ammunition, except for small arms, n.e.c.	629.3	(D)	476.1	-	(D)	141.8
34831	Artillery ammunition, over 30 mm	338.3	-	258.1	-	(D)	(D)
34832	Receipts for ammunition loading and assembly						
34833	Ammunition, except for small arms, n.e.c.	282.9	(D)	209.9	-	(D)	(D)
34830	Ammunition, except small arms, n.e.c., n.s.k.	8.1	-	8.1	-	-	-
3484-	Small arms	662.6	-	-	657.0	-	5.7
34841	Machine guns, 30 mm and under	647.5	-	-	642.1	-	5.5
34842	Small arms, 30 mm and under						
34840	Small arms, n.s.k.	15.1	-	-	14.9	-	.2
3489-	Ordnance and accessories, n.e.c.	483.3	(D)	12.9	(D)	329.9	105.2
34891	Guns, howitzers, mortars, etc., over 30 mm	57.0	-	(D)	-	32.7	(D)
34892	Ordnance and accessories, n.e.c.	414.0	(D)	(D)	(D)	285.8	(D)
34890	Ordnance and accessories, n.e.c., n.s.k.	12.3	-	-	-	11.5	.8
	Other shipments by 4-digit product group:						
2899-	Chemical preparations, n.e.c.	(X)	-	-	-	-	(X)
3321-	Gray iron castings	(X)	-	-	-	2.2	(X)
3411-	Metal cans	(X)	-	(D)	-	-	(X)
3425-	Hand saws and saw blades	(X)	(D)	-	-	-	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	-	(D)	-	-	(X)
3463-	Nonferrous forgings	(X)	-	(D)	-	-	(X)
3511-	Turbines and turbine generator sets	(X)	-	-	-	(D)	(X)
3559-	Special industry machinery, n.e.c.	(X)	-	(D)	-	(D)	(X)
3569-	General industrial machinery, n.e.c.	(X)	-	-	-	(D)	(X)
3599-	Machinery, except electrical, n.e.c.	(X)	-	(D)	(D)	(D)	(X)
3622-	Industrial controls	(X)	-	3.8	-	(Z)	(X)
3639-	Household appliances, n.e.c.	(X)	-	-	-	(D)	(X)
3662-	Radio and TV communication equipment	(X)	-	(D)	-	(D)	(X)
3678-	Electronic connectors	(X)	-	-	-	(Z)	(X)
3728-	Aircraft equipment, n.e.c.	(X)	(D)	(D)	-	(D)	(X)
3764-	Space propulsion units and parts	(X)	-	-	-	(Z)	(X)
3795-	Tanks and tank components	(X)	-	(D)	-	(D)	(X)
3811-	Engineering and scientific instruments	(X)	-	-	-	-	(X)
3825-	Instruments to measure electricity	(X)	-	-	-	-	(X)
3829-	Measuring and controlling devices, n.e.c.	(X)	-	-	-	-	(X)
3944-	Games, toys, and children's vehicles	(X)	-	-	(D)	-	(X)
3949-	Sporting and athletic goods, n.e.c.	(X)	(D)	-	(D)	-	(X)
	Miscellaneous receipts:						
93000 00	Contract work	(X)	48.2	175.8	(D)	264.2	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(D)	(D)	(D)	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	26.9	5.9	52.8	(X)
99989 00	Resales	(X)	(D)	(D)	45.8	(D)	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3483-	3429 Hardware, n.e.c.	(D)
	3545 Machine tool accessories	(D)
	3634 Electric housewares and fans	(D)
	3724 Aircraft engines and engine parts	(D)
	3728 Aircraft equipment, n.e.c.	(D)
	3761 Guided missiles and space vehicles	(D)
	3873 Watches, clocks, and watchcases	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3489-	3533 Oil field machinery	(D)
	3545 Machine tool accessories	(D)
	3662 Radio and TV communication equipment	(D)
	3721 Aircraft	(D)
	3761 Guided missiles and space vehicles	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	SMALL ARMS AMMUNITION						
3482- --	Total		(NA)	(X)	403.9	(X)	r306.4
34820 --	Small arms ammunition, 30 mm and under (or 1.18 inches and under):						
	For small firearms (rifles, shotguns, and sidearms):						
	Cartridges:						
	Rimfire rifle/pistol:						
34820 21	Shipped to Government (Federal, State, local, etc.)	Thousands	2	3,540.7	49.2	26.3	.7
34820 29	Other shipments		4			3,506.1	37.9
	Centerfire rifle:						
34820 31	Shipped to Government (Federal, State, local, etc.)		3	(D)	(D)	1,493.0	r77.3
34820 39	Other shipments		4	495.1	58.0		
	Centerfire pistols, including cartridges interchangeable between rifles and pistols:						
34820 41	Shipped to Government (Federal, State, local, etc.)		3	(D)	(D)	354.9	20.7
34820 49	Other shipments		3	(D)	(D)		
	Shotgun shells:						
34820 51	Shipped to Government (Federal, State, local, etc.)		2	1,135.8	118.7	10.8	.9
34820 59	Other shipments		3			1,246.5	93.0
	Ammunition components:						
34820 61	Primers	Thousands	3	1,234.4	7.8	915.8	5.7
34820 69	All other, including wads, shot cases (primed or unprimed), bullets, bullet jackets, cases, etc		10	(X)	69.1	(X)	46.2
34820 98	Other ammunition products, including industrial shells and cartridges, air gun ammunition, percussion caps, etc		12	(X)	55.7	(X)	16.2
34820 00	Small arms ammunition, 30 mm and under (or 1.18 inches and under), n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	5.6	(X)	5.9
34820 02	Small arms ammunition, 30 mm and under (or 1.18 inches and under), n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	3.6	(X)	1.9

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	AMMUNITION, EXCEPT FOR SMALL ARMS, N.E.C.			
3483- --	Total	(NA)	629.3	r991.2
34831 --	Artillery ammunition, over 30 mm (or over 1.18 inches)	(NA)	338.3	
34831 11	Complete rounds, loaded	1	(3)	
34831 35	Steel cases only	6	477.6	
34831 51	Projectile metal parts	9	90.2	
34831 71	Other components, including primers, fuses, boosters, and nonsteel cases	12	76.6	r481.2
34831 00	Artillery ammunition, over 30 mm, n.s.k	(NA)	2.6	
34832 --	Receipts for ammunition loading and assembly, over 30 mm (or over 1.18 inches):			
34832 11	Receipts for ammunition loading and assembly, over 30 mm (or over 1.18 inches)	2	(3)	
34833 --	Ammunition, except for small arms, n.e.c	(NA)	282.9	
34833 11	Bombs, depth charges, mines, torpedoes, etc., and parts	15	251.1	r506.1
34833 31	Rockets (other than guided missiles) and parts	10	31.8	
34833 00	Ammunition, except for small arms, n.e.c., n.s.k	(NA)		
34830 00	Ammunition, except for small arms, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	5.8	3.2
34830 02	Ammunition, except for small arms, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	2.3	.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	SMALL ARMS						
3484- --	Total		(NA)	(X)	662.6	(X)	334.1
34841 --	Machine guns, 30 mm. and under (or 1.18 inches and under):						
34841 21	Machine guns, 30 mm. and under (or 1.18 inches and under)	Thousands	3	(D)	([5])	(X)	([5])
34842 --	Small arms, 30 mm. and under (or 1.18 inches and under)		(NA)	(X)	[5]647.5	(X)	[5]326.0
	Pistols and revolvers:						
	Centerfire:						
34842 31	Shipped to Government (Federal, State, local, etc.)	Thousands	1	1,370	125.7	251	19.2
34842 33	Other shipments		15			747	47.2
	Rimfire:						
34842 35	Shipped to Government (Federal, State, local, etc.)		1	*485	25.3	250	11.1
34842 37	Other shipments		13				
	Rifles:						
	Centerfire:						
	Semiautomatic:						
34842 41	Shipped to Government (Federal, State, local, etc.)		-	-	-	360	37.8
34842 42	Other shipments		4	186	25.3		
	Bolt repeater:						
34842 43	Shipped to Government (Federal, State, local, etc.)		-	391	42.7	198	15.8
34842 44	Other shipments		5				
	Lever repeater:						
34842 45	Shipped to Government (Federal, State, local, etc.)		-	-	-	-	-
34842 46	Other shipments		3			([6])	([6])
	All other centerfire action types:			400	36.2		
34842 47	Shipped to Government (Federal, State, local, etc.)		-			-	-
34842 49	Other shipments		4			[6]389	[6]23.8
	Rimfire:						
34842 51	Semiautomatic		9	627	24.7	597	16.8
34842 53	All other repeating		6	270	12.9	272	9.2
34842 56	Single shot		4			107	2.7
	Shotguns:						
	Single barrel:						
	Repeating:						
34842 66	Shipped to Government (Federal, State, local, etc.)		-	910	101.3	8	.4
34842 68	Other shipments		7			869	63.2
34842 63	Single shot		4	237	10.3	274	14.3
34842 64	Double barrel, including over and under type	Thousands	1				
34842 73	Other small firearms, 30 mm. and under		6	(X)	[5]146.0	(X)	[5]34.6
34842 81	Parts and attachments for small firearms		23	(X)	95.7	(X)	28.4
34842 00	Small arms, 30 mm. and under (or 1.18 inches and under), n.s.k.		(NA)	(X)	1.4	(X)	1.5
34840 00	Small arms, 30 mm. and under, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	8.9	(X)	5.4
34840 02	Small arms, 30 mm. and under, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	6.2	(X)	2.7

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	ORDNANCE AND ACCESSORIES, N.E.C.			
3489- --	Total	(NA)	483.3	[r]333.8
34891 --	Guns, howitzers, mortars, and related equipment, over 30 mm. (or over 1.18 inches)	(NA)	57.0	44.3
34891 11	Guns, howitzers, and mortars, assembled	2	2.7	
34891 31	Recoilless rifles	1		
34891 51	Turrets, except aircraft turrets and aircraft turret drives; mounts and carriages, except self-propelled	5	33.1	44.3
34891 71	Parts and other related equipment for heavy weapons	8	20.6	
34891 00	Guns, howitzers, mortars, and related equipment, n.s.k.	(NA)	.6	
34892 --	Ordnance and accessories, n.e.c.:			
34892 11	Ordnance and accessories, n.e.c., such as rocket projectors, line-throwing guns, flame throwers, torpedo tubes, etc., and their parts	66	414.0	[r]281.3
34890 00	Ordnance and accessories, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	7.8	7.0
34890 02	Ordnance and accessories, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	4.5	1.2

Footnotes are on next page.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. r Revised. (X) Not applicable.

[1] Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2] For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3] For 1977, product codes 34831 11 and 34832 11 were included with product class 34831 total to avoid disclosing operations of individual companies.

[4] For 1977, associated quantity for product code 34831 35 was 2,600 cases.

[5] For 1977 and 1972, product code 34841 21 was included with product code 34842 73.

[6] For 1972, product code 34842 46 was included with product code 34842 49.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34831 AND 34832, ARTILLERY AMMUNITION, OVER 30 MM AND RECEIPTS FOR AMMUNITION LOADING AND ASSEMBLY		
United States	338.3	481.2
Middle Atlantic Division:		
Pennsylvania	35.9	65.4
East North Central Division:		
Ohio	4.9	1.0
South Atlantic Division:		
Tennessee	58.2	52.5
34833, AMMUNITION, EXCEPT FOR SMALL ARMS, N.E.C.		
United States	282.9	506.1
Middle Atlantic Division:		
Pennsylvania	4.6	GG
East North Central Division:		
Ohio	106.3	EE
Pacific Division:		
California	15.6	GG
34841 AND 34842, MACHINE GUNS, 30 MM AND UNDER AND SMALL ARMS, 30 MM AND UNDER		
United States	647.5	326.0
New England Division:		
Massachusetts	92.8	49.5
Connecticut	237.4	130.6
34892, ORDNANCE AND ACCESSORIES, N.E.C.		
United States	414.0	281.3
New England Division:		
Connecticut	6.2	BB
Middle Atlantic Division:		
New York	7.8	BB
Pennsylvania	69.1	BB
East North Central Division:		
Illinois	(D)	16.4
West North Central Division:		
Minnesota	(D)	EE
South Atlantic Division:		
Florida	4.9	BB
West South Central Division:		
Texas	(D)	(NA)
Pacific Division:		
California	137.7	74.7

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. **Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
34820	Small arms ammunition, 30 mm and under	403.9	429.7	473.6	437.2	432.5	306.4	572.8	192.4
3483-	Ammunition, except for small arms, n.e.c.	629.3	686.4	947.1	1,127.2	1,412.4	991.2	2,462.0	(NA)
34831	Artillery ammunition, over 30 mm	338.3	(NA)	(NA)	(NA)	(NA)	481.2	(NA)	(NA)
34832	Receipts for ammunition loading and assembly								
34833	Ammunition, except for small arms, n.e.c.	282.9	258.1	320.1	397.7	623.4	506.1	(NA)	(NA)
34830	Ammunition, except small arms, n.e.c., n.s.k.	8.1	(S)	5.1	0.2	(9.6)	3.9	(NA)	(NA)
3484-	Small arms	662.6	730.2	554.3	453.3	366.8	334.1	361.7	148.5
34841	Machine guns, 30 mm and under	647.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
34842	Small arms, 30 mm and under								
34840	Small arms, n.s.k.	15.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3489-	Ordnance and accessories, n.e.c.	483.3	529.3	542.8	511.5	517.2	333.8	857.6	255.9
34891	Guns, howitzers, mortars, etc., over 30 mm	57.0	43.9	47.0	54.8	49.4	44.3	51.9	12.4
34892	Ordnance and accessories, n.e.c.	414.0	478.1	488.8	427.4	460.3	281.3	805.7	243.5
34890	Ordnance and accessories, n.e.c., n.s.k.	12.3	7.3	7.0	(29.3)	7.5	8.2	(NA)	(NA)

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3482, SMALL ARMS AMMUNITION					
	Materials, parts, containers, and supplies	.....	(X)	167.0	(X)	207.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331017	Wire and wire products	1,000 s. tons..				
331012	Sheet and strip					
331013	Plates					
331015	Structural shapes					
331011	Bars and bar shapes					
331019	All other carbon steel mill shapes and forms		7.5	7.8	20.5	8.4
	Alloy steel, except stainless:					
331021	Bars and bar shapes					
331029	All other alloy steel mill shapes and forms					
	Stainless steel:					
331033	Sheet and strip					
331050	All other stainless steel mill shapes and forms	1,000 s. tons..				
335792	Insulated copper wire and cable, except magnet wire	Million lb.....	-	-	(X)	(2)
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		5.0	5.6	113.3	79.8
335143	Plate, sheet, and strip, including military cups and discs		34.7	36.6		
335152	Pipe and tube		-	-		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(D)	(D)	(D)	(D)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(D)	(D)	(D)	(D)
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc.)	Million lb.....	(D)	(D)	(D)	(D)
331051	Pig iron, excluding silvery iron	1,000 s. tons..	-	-	(X)	(2)
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap	1,000 s. tons..	-	-	(X)	(2)
339915	Metal powders	Million lb.....	(D)	(D)	(X)	(2)
	Castings (rough and semi-finished):					
332011	Iron (gray and malleable)	1,000 s. tons..	-	-	(X)	(2)
332045	Steel	1,000 s. tons..	-	-	(X)	(2)
336100	Aluminum and aluminum-base alloy	Million lb.....	-	-	(X)	(2)
	Forgings:					
346200	Iron and steel	1,000 s. tons..	-	-	(X)	(2)
346310	Aluminum and aluminum-base alloy	Million lb.....	-	-	(X)	(2)
289217	Smokeless powder	Million lb.....	7.6	18.5	22.3	19.9
	Fractional horsepower electric motors and generators (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous	Millions.....	(D)	(D)	(X)	(2)
	Bearings:					
356218	Ball	.....	(X)	(D)	(D)	(D)
356228	Roller	.....	-	-	(D)	(D)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb. (dry basis)...	13.4	4.7	(X)	(2)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	84.7	(X)	291.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	6.3	(X)	7.7
	INDUSTRY 3483, AMMUNITION, EXCEPT FOR SMALL ARMS, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	248.9	(X)	r569.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	**33.6	14.5	r453.8	r133.0
331012	Sheet and strip				r52.6	r14.3
331013	Plates				(X)	(4)
331015	Structural shapes		54.0	23.3	(X)	(4)
331017	Wire and wire products				5.8	1.4
331019	All other carbon steel mill shapes and forms				269.0	464.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes		21.3	11.1	45.9	13.3
331029	All other alloy steel mill shapes and forms				41.6	9.2
	Stainless steel:					
331033	Sheet and strip		(S)	3.9	.6	.9
331050	All other stainless steel mill shapes and forms	1,000 s. tons..			.5	.9
335792	Insulated copper wire and cable, except magnet wire	Million lb.....	(D)	(D)	(D)	(D)
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(D)	(D)	r6.6	r5.7
335143	Plate, sheet, and strip, including military cups and discs		(D)	(D)		
335152	Pipe and tube		-	-	5.6	5.6
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	1.2	28.7	16.8
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		7.2	6.7	14.4	17.9
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc.)	Million lb.....	(S)	2.4	12.5	4.0

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3483, AMMUNITION, EXCEPT FOR SMALL ARMS, N.E.C.--Con.					
331051	Pig iron, excluding silvery iron	1,000 s. tons	(D)	(D)	(X)	(5)
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap	1,000 s. tons	(D)	(D)	-	-
339915	Metal powders	Million lb	(D)	(D)	(X)	(5)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons	(D)	(D)	6.5	3.4
332045	Steel	1,000 s. tons	(D)	(D)	4.4	2.2
336100	Aluminum and aluminum-base alloy	Million lb	(D)	(D)	10.1	8.9
	Forgings:					
346200	Iron and steel forgings	1,000 s. tons	4.5	2.7	21.8	12.4
346310	Aluminum, and aluminum-base alloy forgings	Million lb	5.1	5.8	8.6	8.4
289217	Smokeless powder	Million lb	(D)	(D)	(X)	(5)
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous	Thousands	(D)	(D)	(D)	(D)
	Bearings:					
356218	Ball		(X)	.3	(X)	(D)
356228	Roller		-	-		
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb. (dry basis).	*.7	1.4	3.1	2.2
970099	All other materials and components, parts, containers, and supplies		(X)	164.1	(X)	5r184.5
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	.4	(X)	58.6
	INDUSTRY 3484, SMALL ARMS					
	Materials, parts, containers, and supplies		(X)	232.1	(X)	98.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	12.7	6.7	25.1	7.1
331012	Sheet and strip		(6)	(6)	2.7	.9
331013	Plates		-	-		
331017	Wire and wire products		(6)	(6)	1.2	1.1
331019	All other carbon steel mill shapes and forms		611.9	66.3		
	Alloy steel, except stainless:					
331021	Bars and bar shapes		6.6	5.9	7.1	4.4
331029	All other alloy steel mill shapes and forms		1.0	1.5		
	Stainless steel:					
331033	Sheet and strip		.2	.2	.5	.6
331050	All other	1,000 s. tons				
335792	Insulated copper wire and cable, except magnet wire	Mil. lb (copper content).	-	-	-	-
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(D)	(D)	(D)	(D)
335143	Plate, sheet, and strip, including military cups and discs		-	-		
335152	Pipe and tube		-	-		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc					
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc	Million lb	2.8	1.7	3.7	2.2
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons	.6	1.1	(D)	(D)
332045	Steel	1,000 s. tons	(S)	17.0	1.1	3.5
336100	Aluminum and aluminum-base alloy	Million lb	(S)	3.9	.7	1.6
	Forgings:					
346200	Iron and steel	1,000 s. tons	*4.7	6.8	2.6	5.6
346310	Aluminum and aluminum-base alloy	Million lb	(D)	(D)	(D)	(D)
289217	Smokeless powder	Million lb	-	-	(D)	(D)
	Bearings:					
356218	Ball		(X)	(D)	(X)	(D)
356228	Roller		(X)	(D)	(X)	(D)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb (dry basis).	(D)	(D)	(X)	57.7
970099	All other materials and components, parts, containers, and supplies		(X)	166.4		
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	13.1	(X)	11.8
	INDUSTRY 3489, ORDNANCE AND ACCESSORIES, N.E.C.					
	Materials, parts, containers, and supplies		(X)	198.7	(X)	112.7
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	1.5	.8	1.1	.3
331012	Sheet and strip		(D)	(D)	24.2	5.9
331013	Plates		1.6	.8		
331015	Structural shapes		(S)	.2	5.9	1.4
331017	Wire and wire products		-	-		
331019	All other carbon steel mill shapes and forms		**.1	.2		

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity[1]	1972 Delivered cost (million dollars)
	INDUSTRY 3489, ORDNANCE AND ACCESSORIES, N.E.C.--Con.					
	Mill shapes and forms, except castings--Con.					
	Alloy steel, except stainless:					
331021	Bars and bar shapes	1,000 s. tons	*.3	.3	1.6	.7
331029	All other alloy steel mill shapes and forms	1,000 s. tons	*.1	.4		
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons	(S)	.8	.9	1.1
331050	All other stainless steel mill shapes and forms	1,000 s. tons	.1	.3		
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content)	(D)	(D)	(D)	(D)
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(D)	(D)	(D)	(D)
335143	Plate, sheet, and strip, including military cups and discs	Million lb	(D)	(D)		
335152	Pipe and tube	Million lb	(D)	(D)		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb	*.8	1.4	(S)	2.4
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc	Million lb	(S)	3.3		
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, and welded tubing, etc.)	Million lb	**1.1	1.5		
331051	Pig iron, excluding silvery iron	1,000 s. tons	-	-	(X)	([7])
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap	1,000 s. tons	-	-	(X)	([7])
339915	Metal powders	Million lb	-	-	(X)	([7])
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons	(D)	(D)	(D)	(D)
332045	Steel	1,000 s. tons	(S)	2.7	(D)	(D)
336100	Aluminum and aluminum-base alloy	Million lb	(D)	(D)	(D)	(D)
	Forgings:					
346200	Iron and steel	1,000 s. tons	.8	3.2	(D)	(D)
346310	Aluminum and aluminum-base alloy	Million lb	*.2	.7	(D)	(D)
289217	Smokeless powder	Million lb	(D)	(D)	(X)	([7])
	Fractional horsepower electric motors and generators (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous	Million	(D)	(D)	(D)	(D)
	Bearings:					
356218	Ball		(X)	(D)	(D)	(D)
356228	Roller		(X)	.3	(D)	(D)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb. (dry basis)	(D)	(D)	(X)	([7])
970099	All other materials and components, parts, containers, and supplies		(X)	130.8	(X)	[7]53.0
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	40.9	(X)	30.6

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 335792, 331051, 999808, 339915, 332011, 332045, 336100, 346200, 346310, 362110, and 282104 were included with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1972, material codes 331013 and 331015 were included with material code 331019.

[5]For 1972, material codes 331051, 339915, and 289217 were included with material code 970099.

[6]For 1977, material codes 331012 and 331017 were included with material code 331019.

[7]For 1972, material codes 331051, 999808, 339915, 289217, and 282104 were combined with material code 970099.

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DESCRIPTION OF INDUSTRIES

MISCELLANEOUS FABRICATED METAL PRODUCTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3493 Steel Springs, Except Wire
3494 Valves and Pipe Fittings
3495 Wire Springs
3496 Miscellaneous Fabricated Wire Products
3497 Metal Foil and Leaf
3498 Fabricated Pipe and Fittings
3499 Fabricated Metal Products, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3493, STEEL SPRINGS, EXCEPT WIRE

This industry comprises establishments primarily engaged in the manufacture of leaf springs, hot wound springs, and coiled flat springs. Establishments primarily engaged in the manufacture of wire springs are classified in industry 3495.

The total value of shipments for establishments classified in the Steel Springs, Except Wire industry amounted to $501 million in 1977, an increase of 51 percent from 1972. The value of shipments of products classified as primary to the industry was $571 million, an increase of 58 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were hot formed springs, for which shipments increased 63 percent. Value added by manufacture, at $250 million in 1977, was 67 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.2 thousand employees, a decrease of 1 percent from 1972. The leading States in employment were Pennsylvania, Indiana, Illinois, and Michigan, accounting for approximately 60 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3494, VALVES AND PIPE FITTINGS

This industry comprises establishments primarily engaged in the manufacture of pipe fittings and valves for controlling the flow of liquid or gases in pipes and mains, and for machinery. Establishments primarily engaged in the manufacture of faucets, spigots, and similar plumbers' brass goods and fittings are classified in industry 3432, flexible metal hose and tubings in industry 3599, and fittings and couplings for garden hose in industry 3429.

The total value of shipments for establishments classified in the Valves and Pipe Fittings industry amounted to $5,662 million in 1977, an increase of 93 percent from 1972. The value of shipments of products classified as primary to the industry was $5,403 million, an increase of 88 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $3,386 million in 1977, was 94 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 108.7 thousand employees, an increase of 16 percent from 1972. The leading States in employment were Ohio, Illinois, Pennsylvania, and Texas, accounting for approximately 35 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 40 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of automatic regulating and control valves and solenoid valves only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of automatic regulating and control valves and solenoid valves are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-38B, Selected Instruments and Related Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3495, WIRE SPRINGS

This industry comprises establishments primarily engaged in the manufacture of wire springs. Establishments primarily engaged in assembling wire bedsprings or seats are classified in major group 25.

The total value of shipments for establishments classified in the Wire Springs industry amounted to $958 million in 1977, an increase of 57 percent from 1972. The value of shipments of products classified as primary to the industry was $933 million, an increase of 65 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were precision mechanical springs, for which shipments increased 56 percent, and other wire springs, for which shipments increased 137 percent. Value added by manufacture, at $498 million in 1977, was 46 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 21.7 thousand employees, a decrease of 8 percent from 1972. The leading States in employment were Michigan, Illinois, Kentucky, and California, accounting for approximately 55 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3496, MISCELLANEOUS FABRICATED WIRE PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of products from purchased wire, such as noninsulated wire rope and cable; fencing, screening, netting, and paper machine wire coloth; and hangers, paper clips, kitchenware, and wire carts. Rolling mills engaged in the manufacture of wire products are classified in major group 33; establishments manufacturing nonferrous wire nails and spikes in industry 3399; those drawing and insulating nonferrous wire in industry 3357; and those manufacturing wire springs in industry 3495.

The total value of shipments for establishments classified in the Miscellaneous Fabricated Wire Products industry amounted to $1,435 million in 1977, an increase of 50 percent from 1972. The value of shipments of products classified as primary to the industry was $3,337 million, an increase of 58 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were noninsulated ferrous wire rope, cable, and strand, for which shipments increased 66 percent, and wire carts, for which shipments increased 100 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $722 million in 1977, was 43 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 32.4 thousand employees, a decrease of 2 percent from 1972. The leading States in employment were New York, Pennsylvania, California, and Illinois, accounting for approximately 35 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 40 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

Certain products primary to industry 3496 are also primary to industries 3315 and 3357. Table 6a shows the value of the primary product shipments for all industries to which they are primary.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 9 percent of total value of shipments.

INDUSTRY 3497, METAL FOIL AND LEAF

This industry comprises establishments primarily engaged in the manufacture of gold, silver, tin, and other metal foil (including converted metal foil) and leaf. This industry also includes establishments primarily engaged in converting metal foil (including aluminum) into wrappers, cookware, dinnerware, and containers, except bags and liners. Establishments primarily engaged in the manufacture of plain aluminum foil are classified in industry 3353.

The total value of shipments for establishments classified in the Metal Foil and Leaf industry amounted to $878 million in 1977, an increase of 149 percent from 1972. The value of shipments of products classified as primary to the industry was

$1,070 million, an increase of 109 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were polyethylene coated and/or laminated aluminum foil/paper for packaging uses, for which shipments increased 207 percent, and film/aluminum foil without paper for flexible packaging uses, for which shipments increased 288 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $293 million in 1977, was 129 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 9.3 thousand employees, an increase of 70 percent from 1972. The leading States in employment were Ohio, North Carolina, New Jersey, and Virginia, accounting for approximately 55 percent of the industry's 1977 employment. Data for North Carolina and Virginia have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3498, FABRICATED PIPE AND FITTINGS

This industry comprises establishments primarily engaged in fabricating pipe and pipe fittings from purchased pipe by cutting, threading, bending, etc. Establishments primarily engaged in the manufacture of cast iron pipe and fittings, including cast and forged pipe fittings which have been machined and threaded, are classified in industry 3321.

The total value of shipments for establishments classified in the Fabricated Pipe and Fittings industry amounted to $1,873 million in 1977, an increase of 166 percent from 1972. The value of shipments of products classified as primary to the industry was $1,698 million, an increase of 153 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were fabricated iron and steel pipe and fittings, for which shipments increased 207 percent. Value added by manufacture, at $887 million in 1977, was 144 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 28.2 thousand employees, an increase of 61 percent from 1972. The leading States in employment were Texas, Pennsylvania, Michigan, and California, accounting for approximately 50 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3499, FABRICATED METAL PRODUCTS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of fabricated metal products, not elsewhere classified, such as fire-or-burglary-resistive steel safes and vaults; and similar fire-or-burglary-resistive products; and collapsible tubes of thin flexible metal. Establishments primarily engaged in the manufacture of concrete grave vaults are classified in industry 3272.

The total value of shipments for establishments classified in the Fabricated Metal Products, N.E.C. industry amounted to $3,429 million in 1977, an increase of 79 percent from 1972. The value of shipments of products classified as primary to the industry was $3,390 million, an increase of 59 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $1,815 million in 1977, was 75 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 70.8 thousand employees, an increase of 15 percent from 1972. The leading States in employment were Ohio, Illinois, California, and New York, accounting for approximately 40 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3493, STEEL SPRINGS, EXCEPT WIRE																
1977 Census--	116	131	59	8.2	119.8	6.6	13.3	88.0	249.9	259.3	500.5	14.1	(NA)	81.6	84	72
1976 ASM----	(NA)	(NA)	(NA)	8.5	106.8	6.8	13.3	77.0	199.7	279.0	472.7	8.3	140.5	82.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	7.3	82.9	5.7	11.2	56.8	162.2	221.7	387.4	28.6	131.7	67.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.5	110.0	8.6	16.2	81.0	203.5	257.2	455.7	16.3	102.5	86.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.2	95.7	7.2	15.1	71.0	169.9	231.5	399.1	8.4	99.7	68.9	(NA)	(NA)
1972 Census--	99	110	53	8.5	79.9	6.7	13.3	56.9	149.7	183.1	331.4	6.6	98.8	57.4	81	73
1971 ASM----	(NA)	(NA)	(NA)	8.8	73.1	6.9	13.4	52.8	135.5	152.4	289.8	8.3	93.5	49.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.5	74.5	7.6	14.4	53.5	126.0	141.5	265.6	5.7	86.6	46.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	9.4	74.4	7.7	16.2	54.7	132.4	159.3	290.9	8.7	86.8	41.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	9.1	66.0	7.4	15.4	48.8	131.2	142.3	272.1	4.7	72.4	40.0	(NA)	(NA)
1967 Census--	105	114	61	7.7	53.9	6.2	12.6	39.8	92.0	100.4	192.4	6.3	69.6	30.0	88	63
1966 ASM----	(NA)	(NA)	(NA)	5.9	41.3	4.8	9.9	30.9	69.7	92.8	162.2	2.4	(NA)	23.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	5.9	40.3	4.7	9.7	30.1	61.5	90.0	151.4	1.8	(NA)	23.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	5.8	39.2	4.7	9.7	29.8	67.0	85.0	151.9	1.6	40.6	21.6	(NA)	(NA)
1963 Census--	91	96	49	6.3	41.3	5.1	10.6	31.4	69.3	89.1	157.7	2.0	39.9	21.1	91	67
INDUSTRY 3494, VALVES AND PIPE FITTINGS																
1977 Census--	744	902	532	108.7	1 467.3	76.0	149.6	909.8	3 385.9	2 382.5	5 662.3	201.2	(NA)	1 508.2	89	88
1976 ASM----	(NA)	(NA)	(NA)	102.7	1 282.7	70.6	140.1	789.1	2 827.6	2 006.5	4 796.1	182.1	1 624.1	1 362.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	102.4	1 181.3	69.8	137.0	721.1	2 668.2	1 969.2	4 544.9	165.4	1 472.1	1 316.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	107.6	1 137.6	75.5	160.5	715.7	2 588.7	1 879.4	4 280.3	132.7	1 294.6	1 212.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	101.3	1 000.5	70.8	143.1	626.3	2 010.6	1 475.2	3 413.7	110.0	1 148.6	918.3	(NA)	(NA)
1972 Census--	645	780	464	94.3	879.9	65.6	131.3	547.2	1 751.2	1 246.8	2 956.9	79.0	(S)	782.3	90	86
1971 ASM----	(NA)	(NA)	(NA)	94.2	830.4	65.7	130.6	514.3	1 638.7	1 201.3	2 853.1	77.8	1 139.2	777.4	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	97.5	812.3	67.7	135.8	504.9	1 564.0	1 154.5	2 686.5	85.5	1 069.1	760.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	96.2	750.4	68.3	139.0	469.0	1 472.4	1 064.1	2 499.2	75.9	891.0	670.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	95.5	707.1	67.6	136.0	439.6	1 414.8	959.3	2 350.3	76.7	835.6	617.7	(NA)	(NA)
1967 Census--	575	666	412	95.3	683.5	67.8	139.0	429.8	1 377.3	936.8	2 274.5	100.0	792.6	599.9	86	88
1966 ASM----	(NA)	(NA)	(NA)	92.2	642.4	66.1	138.7	410.6	1 321.6	932.6	2 209.0	67.9	(NA)	540.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	87.9	580.4	63.1	129.6	368.8	1 165.7	817.5	1 933.9	44.4	(NA)	477.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	81.9	533.5	59.1	123.3	344.7	1 003.9	711.8	1 691.5	45.5	593.4	407.8	(NA)	(NA)
1963 Census--	580	646	374	80.4	500.0	58.1	116.9	321.2	942.7	652.0	1 588.5	39.0	559.5	385.4	86	85
INDUSTRY 3495, WIRE SPRINGS[3]																
1977 Census--	253	332	226	21.7	253.5	18.0	35.4	187.8	497.7	458.6	957.7	27.6	(NA)	104.5	92	92
1976 ASM----	(NA)	(NA)	(NA)	19.4	208.9	16.4	32.9	154.2	421.6	367.3	782.8	18.6	211.4	103.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	18.8	184.4	15.5	30.2	133.1	359.3	316.1	680.0	12.7	209.4	92.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	22.3	201.6	18.9	37.7	152.6	411.3	318.0	718.7	17.7	228.0	109.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	24.4	208.9	20.6	41.3	158.9	382.0	300.0	678.0	15.9	192.0	82.1	(NA)	(NA)
1972 Census--	206	284	216	23.7	193.2	19.8	40.0	144.5	340.7	273.3	611.9	12.9	192.1	66.5	88	93
INDUSTRY 3496, MISCELLANEOUS FABRICATED WIRE PRODUCTS[3]																
1977 Census--	1 048	1 114	387	32.4	354.5	25.5	49.4	232.2	721.7	728.3	1 435.0	47.3	(NA)	252.8	91	37
1976 ASM----	(NA)	(NA)	(NA)	30.3	303.9	24.7	47.9	210.4	624.2	657.5	1 266.2	38.2	375.9	223.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	28.0	270.3	22.5	43.8	185.0	565.0	575.6	1 139.1	27.2	350.1	221.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	31.6	282.5	25.7	50.1	198.8	578.9	587.1	1 137.9	44.4	360.2	224.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	32.2	259.1	25.9	50.4	178.8	532.9	467.6	994.5	29.9	329.1	157.8	(NA)	(NA)
1972 Census--	1 157	1 211	412	33.2	261.4	26.5	51.7	177.3	504.4	462.7	959.7	28.9	351.1	158.7	83	39

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3497, METAL FOIL AND LEAF																
1977 Census--	63	76	51	9.3	124.3	6.6	12.8	86.2	292.7	595.0	877.5	15.8	(NA)	139.0	80	63
1976 ASM----	(NA)	(NA)	(NA)	6.0	75.6	4.3	8.7	49.7	177.7	303.8	477.4	11.2	144.9	74.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	5.5	65.7	4.1	8.1	41.9	136.9	248.4	389.2	11.7	141.8	64.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	5.9	64.2	4.3	9.1	42.5	169.6	261.5	420.5	17.0	137.7	78.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	5.8	57.6	4.3	8.7	38.5	139.2	191.7	332.5	11.3	119.7	49.6	(NA)	(NA)
1972 Census--	54	63	40	5.4	51.9	3.9	8.1	33.2	126.5	157.6	282.0	8.2	105.3	43.8	80	52
1971 ASM----	(NA)	(NA)	(NA)	5.3	49.4	3.7	7.6	29.5	102.8	161.7	266.9	17.3	106.7	40.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	6.0	53.5	4.3	8.9	32.9	113.2	165.0	278.5	9.7	104.2	45.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	6.7	56.0	5.0	10.4	36.6	122.1	177.4	294.7	15.5	100.3	50.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	6.7	51.3	5.0	10.2	33.2	114.7	165.5	277.3	12.2	88.8	42.9	(NA)	(NA)
1967 Census--	59	72	46	6.6	48.7	4.8	10.3	31.1	104.9	160.0	265.5	10.6	80.9	37.4	85	56
1966 ASM----	(NA)	(NA)	(NA)	4.7	34.3	3.4	7.4	22.1	64.5	103.4	165.9	6.6	(NA)	27.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	4.3	30.9	2.8	6.7	18.4	51.7	114.0	164.0	5.5	(NA)	25.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	4.1	28.3	3.0	6.1	18.0	49.3	105.7	156.8	5.6	70.4	23.2	(NA)	(NA)
1963 Census--	56	65	38	4.1	27.1	3.0	6.3	17.7	51.6	99.0	151.6	5.7	67.6	24.3	86	41
INDUSTRY 3498, FABRICATED PIPE AND FITTINGS																
1977 Census--	514	579	278	28.2	390.0	21.4	40.6	265.4	887.2	1 015.4	1 872.7	51.0	(NA)	418.4	94	93
1976 ASM----	(NA)	(NA)	(NA)	25.5	354.1	19.8	38.1	260.2	726.8	896.2	1 646.7	57.5	342.1	335.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	20.7	251.6	15.6	30.3	170.1	637.0	710.7	1 307.2	49.1	271.3	357.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	20.9	225.8	15.8	31.2	149.1	603.4	603.3	1 158.8	31.5	214.2	269.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	19.4	184.8	14.6	28.5	126.1	413.8	443.6	846.4	19.9	185.2	181.7	(NA)	(NA)
1972 Census--	373	423	202	17.5	164.7	13.2	25.9	112.4	363.1	352.2	704.4	14.7	173.2	157.5	94	90
1971 ASM----	(NA)	(NA)	(NA)	16.5	145.2	12.6	24.6	97.7	297.1	301.3	594.7	12.6	143.9	136.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	16.2	138.7	12.4	25.2	95.1	270.9	272.0	540.3	13.5	138.1	130.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	16.5	117.7	12.4	26.3	78.8	251.3	336.7	588.9	20.8	159.7	138.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	18.4	134.9	13.9	28.6	94.6	255.9	317.5	569.4	17.7	132.3	125.5	(NA)	(NA)
1967 Census--	356	393	197	18.2	129.1	13.4	27.4	86.6	238.5	274.4	508.1	14.4	124.8	100.7	95	90
1966 ASM----	(NA)	(NA)	(NA)	16.3	109.9	11.8	24.4	70.3	145.9	287.4	463.0	8.8	(NA)	74.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	15.4	96.5	11.5	22.9	65.6	172.1	221.4	400.5	6.3	(NA)	84.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	14.0	88.1	10.4	21.1	59.6	163.8	185.3	348.0	4.6	95.9	72.9	(NA)	(NA)
1963 Census--	328	349	146	13.0	79.1	9.3	18.7	51.7	144.6	161.5	305.6	5.1	92.4	69.8	92	91
INDUSTRY 3499, FABRICATED METAL PRODUCTS, N.E.C.[3]																
1977 Census--	3 140	3 238	794	70.8	844.7	54.1	104.8	547.8	1 814.5	1 643.5	3 429.2	94.8	(NA)	574.3	89	83
1976 ASM----	(NA)	(NA)	(NA)	66.7	765.0	50.5	94.6	495.4	1 691.4	1 475.8	3 170.2	92.7	903.8	514.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	63.2	668.6	47.5	88.3	437.4	1 468.8	1 381.5	2 863.0	64.1	796.4	502.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	69.3	644.4	51.6	97.6	433.2	1 450.9	1 280.0	2 694.5	85.5	741.5	460.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	64.6	565.0	49.6	96.3	370.1	1 157.9	991.2	2 128.0	38.9	625.2	346.9	(NA)	(NA)
1972 Census--	2 254	2 343	653	61.8	510.7	47.2	92.2	337.7	1 047.4	896.9	1 938.6	61.8	624.0	301.1	89	74

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3493, STEEL SPRINGS, EXCEPT WIRE											
1977 Census--	14 573	(NA)	80	2 013	6.61	51	75	(NA)	30 386	47	18.79
1976 ASM----	12 564	16 529	80	1 955	5.78	59	81	29	23 494	53	15.01
1975 ASM----	11 356	18 041	78	1 964	5.07	57	78	33	22 219	51	14.48
1974 ASM----	10 476	9 761	81	1 883	5.00	56	80	22	19 380	54	12.56
1973 ASM----	10 402	10 836	78	2 097	4.70	58	81	24	18 467	56	11.25
1972 Census--	9 400	11 623	78	1 985	4.27	55	79	29	17 611	53	11.25
1971 ASM----	8 306	10 625	78	1 942	3.94	52	77	32	15 397	53	10.11
1970 ASM----	7 842	9 115	80	1 894	3.71	53	81	32	13 263	59	8.75
1969 ASM----	7 914	9 234	81	2 103	3.37	54	80	29	14 085	56	8.17
1968 ASM----	7 252	7 956	81	2 081	3.16	52	76	26	14 417	50	8.51
1967 Census--	7 000	9 038	80	2 032	3.15	52	80	36	11 948	58	7.30
1966 ASM----	7 000	(NA)	81	2 062	3.12	57	82	(NA)	11 813	59	7.04
1965 ASM----	6 830	(NA)	79	2 063	3.10	59	86	(NA)	10 423	65	6.34
1964 ASM----	6 758	7 000	81	2 063	3.07	55	81	26	11 551	58	6.90
1963 Census--	6 555	6 333	80	2 078	2.96	56	82	25	11 000	59	6.53
INDUSTRY 3494, VALVES AND PIPE FITTINGS											
1977 Census--	13 495	(NA)	69	1 969	6.08	42	67	(NA)	31 141	43	22.63
1976 ASM----	12 489	15 814	68	1 984	5.63	41	68	33	27 532	45	20.18
1975 ASM----	11 536	14 375	68	1 962	5.26	43	69	32	26 056	44	19.47
1974 ASM----	10 572	12 031	70	2 125	4.45	43	70	30	24 058	43	16.12
1973 ASM----	9 876	11 338	69	2 021	4.37	43	72	33	19 847	49	14.05
1972 Census--	9 330	(S)	69	2 001	4.16	42	71	(S)	18 570	50	13.33
1971 ASM----	8 815	12 093	69	1 987	3.93	42	71	39	17 395	50	12.54
1970 ASM----	8 331	10 965	69	2 005	3.71	42	73	39	16 041	51	11.51
1969 ASM----	7 800	9 261	70	2 035	3.37	42	72	35	15 305	50	10.59
1968 ASM----	7 404	8 749	70	2 011	3.23	40	70	35	14 814	49	10.40
1967 Census--	7 172	8 316	71	2 050	3.09	41	71	34	14 452	49	9.90
1966 ASM----	6 967	(NA)	71	2 098	2.96	42	71	(NA)	14 334	48	9.52
1965 ASM----	6 602	(NA)	71	2 053	2.84	42	72	(NA)	13 261	49	8.99
1964 ASM----	6 514	7 245	72	2 086	2.79	42	73	35	12 257	53	8.14
1963 Census--	6 218	6 958	72	2 012	2.74	41	72	35	11 725	53	8.06
INDUSTRY 3495, WIRE SPRINGS											
1977 Census--	11 665	(NA)	82	1 967	5.30	47	74	(NA)	22 902	50	14.04
1976 ASM----	10 768	10 896	84	2 006	4.68	46	73	27	21 731	49	12.81
1975 ASM----	9 808	11 138	82	1 948	4.40	46	73	30	19 111	51	11.89
1974 ASM----	9 040	10 224	84	1 994	4.04	44	72	31	18 443	49	10.90
1973 ASM----	8 561	7 868	84	2 004	3.84	44	75	28	15 655	54	9.24
1972 Census--	8 151	8 105	83	2 020	3.61	44	76	31	14 375	56	8.51
INDUSTRY 3496, MISCELLANEOUS FABRICATED WIRE PRODUCTS											
1977 Census--	10 946	(NA)	78	1 940	4.69	50	75	(NA)	22 282	49	14.59
1976 ASM----	10 029	12 405	81	1 939	4.39	51	75	29	20 600	48	13.03
1975 ASM----	9 653	12 503	80	1 946	4.22	50	74	30	20 178	47	12.89
1974 ASM----	8 939	11 398	81	1 949	3.96	51	76	31	18 319	48	11.55
1973 ASM----	8 046	10 220	80	1 945	3.54	47	73	33	16 549	48	10.57
1972 Census--	7 873	10 575	79	1 950	3.42	48	75	36	15 192	51	9.75

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3497, METAL FOIL AND LEAF											
1977 Census--	13 376	(NA)	70	1 949	6.72	67	81	(NA)	31 514	42	22.83
1976 ASM----	12 600	24 150	71	2 023	5.71	63	79	30	29 616	42	20.42
1975 ASM----	11 945	25 781	74	1 975	5.17	63	80	36	24 890	47	16.90
1974 ASM----	10 881	23 338	72	2 116	4.67	62	77	32	28 745	37	18.63
1973 ASM----	9 931	20 637	74	2 023	4.42	57	74	36	24 000	41	16.00
1972 Census--	9 611	19 500	72	2 076	4.09	55	74	37	23 425	41	15.61
1971 ASM----	9 320	20 132	69	2 054	3.88	60	79	39	19 396	48	13.52
1970 ASM----	8 916	17 366	71	2 069	3.69	59	78	37	18 866	47	12.71
1969 ASM----	8 358	14 970	74	2 080	3.51	60	79	34	18 223	45	11.74
1968 ASM----	7 656	13 253	74	2 040	3.25	59	78	32	17 119	44	11.24
1967 Census--	7 378	12 257	72	2 145	3.01	60	78	30	15 893	46	10.18
1966 ASM----	7 297	(NA)	72	2 176	2.98	62	83	(NA)	13 723	53	8.71
1965 ASM----	7 186	(NA)	65	2 392	2.74	69	88	(NA)	12 023	59	7.71
1964 ASM----	6 902	17 170	73	2 033	2.95	67	85	44	12 024	57	8.08
1963 Census--	6 609	16 487	73	2 100	2.80	65	83	44	12 585	52	8.19
INDUSTRY 3498, FABRICATED PIPE AND FITTINGS											
1977 Census--	13 843	(NA)	75	1 899	6.54	54	75	(NA)	31 492	43	21.87
1976 ASM----	13 886	13 415	77	1 924	6.82	54	75	20	28 501	48	19.07
1975 ASM----	12 154	13 106	75	1 942	5.61	54	73	20	30 772	39	21.02
1974 ASM----	10 803	10 248	75	1 974	4.77	52	71	18	28 870	37	19.33
1973 ASM----	9 525	9 546	75	1 952	4.42	52	74	21	21 329	44	14.51
1972 Census--	9 411	9 897	75	1 962	4.33	50	73	24	20 748	45	14.01
1971 ASM----	8 800	8 721	76	1 952	3.97	50	75	24	18 006	48	12.07
1970 ASM----	8 561	8 524	76	2 032	3.77	50	76	25	16 722	51	10.75
1969 ASM----	7 133	9 678	75	2 120	2.99	57	77	27	15 230	46	9.55
1968 ASM----	7 331	7 190	75	2 057	3.30	55	79	23	13 907	52	8.94
1967 Census--	7 093	6 857	73	2 044	3.16	54	79	24	13 104	54	8.70
1966 ASM----	6 742	(NA)	72	2 067	2.88	62	85	(NA)	8 950	75	5.97
1965 ASM----	6 266	(NA)	74	1 991	2.86	55	79	(NA)	11 175	56	7.51
1964 ASM----	6 292	6 850	74	2 028	2.82	53	78	27	11 700	53	7.76
1963 Census--	6 084	7 107	71	2 010	2.76	52	78	30	11 123	54	7.73
INDUSTRY 3499, FABRICATED METAL PRODUCTS, N.E.C.											
1977 Census--	11 925	(NA)	76	1 935	5.22	47	72	(NA)	25 617	46	17.31
1976 ASM----	11 469	13 550	75	1 873	5.23	46	70	28	25 358	45	17.87
1975 ASM----	10 579	12 601	75	1 858	4.95	48	71	27	23 240	45	16.63
1974 ASM----	9 298	10 699	74	1 891	4.43	47	71	27	20 936	44	14.86
1973 ASM----	8 746	9 678	76	1 941	3.84	46	73	29	17 924	48	12.02
1972 Census--	8 263	10 097	76	1 953	3.66	46	72	32	16 948	48	11.36

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3493, STEEL SPRINGS, EXCEPT WIRE													
United States	-	**131**	**59**	**8.2**	**119.8**	**6.6**	**13.3**	**88.0**	**249.9**	**259.3**	**500.5**	**14.1**	**8.5**	**149.7**
New England Division:													
Connecticut	-	5	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:													
Pennsylvania	-	19	13	1.8	29.1	1.5	3.1	21.6	71.4	70.1	140.1	4.6	(NA)	(D)
East North Central Division:													
Ohio	-	11	4	0.5	7.1	0.4	0.8	5.3	14.2	14.8	29.3	0.6	(NA)	(D)
Indiana	-	7	7	1.7	24.9	1.4	2.7	19.4	48.7	60.4	107.4	1.8	0.6	12.0
Illinois	-	13	7	1.0	14.8	0.9	1.9	11.5	28.1	29.3	55.7	1.5	1.0	22.3
Michigan	-	11	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.0	20.8
West North Central Division:														
Kansas	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	8	3	0.3	3.9	0.2	0.4	2.4	8.4	5.4	13.7	(D)	(NA)	(NA)
Pacific Division:														
California	-	20	8	0.6	7.3	0.4	0.7	4.5	15.8	15.9	30.9	(D)	0.3	3.7
INDUSTRY 3494, VALVES AND PIPE FITTINGS														
United States	-	**902**	**532**	**108.7**	**1 467.3**	**76.0**	**149.6**	**909.8**	**3 385.9**	**2 382.5**	**5 662.3**	**201.2**	**94.3**	**1 751.2**
New England Division:														
Maine	-	4	2	0.4	3.9	0.3	0.5	2.8	6.0	6.8	12.2	(D)	(NA)	(NA)
New Hampshire	E6	5	3	0.5	5.8	0.4	0.8	4.4	6.3	8.1	14.3	(D)	(NA)	(D)
Massachusetts	E1	34	18	5.3	76.7	3.3	6.5	41.7	162.4	98.3	254.1	8.7	3.9	79.1
Rhode Island	-	8	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	E1	26	13	2.0	25.4	1.3	2.7	14.8	63.6	42.6	104.9	3.3	1.9	33.3
Middle Atlantic Division:														
New York	-	49	21	3.2	42.2	2.4	4.7	27.0	109.1	72.3	179.1	9.5	4.6	87.7
New Jersey	-	45	29	4.8	71.2	2.9	5.6	35.4	171.6	88.8	259.4	5.4	4.7	111.8
Pennsylvania	-	75	46	9.1	120.7	6.6	12.3	77.7	264.8	183.1	446.7	16.3	10.0	180.9
East North Central Division:														
Ohio	-	84	54	11.9	162.6	8.3	16.8	101.8	409.1	378.5	765.4	21.0	8.0	166.6
Indiana	-	31	19	3.8	47.0	3.0	5.7	32.4	111.9	100.3	209.8	4.9	3.1	56.8
Illinois	-	63	49	10.8	140.9	7.3	13.8	84.6	285.6	203.9	488.4	12.5	(NA)	(D)
Michigan	-	55	38	5.1	73.6	3.9	7.8	47.2	160.6	126.1	285.7	9.2	4.6	95.2
Wisconsin	-	21	10	3.0	41.0	2.4	4.6	29.6	94.6	54.2	146.1	4.0	4.2	62.5
West North Central Division:														
Minnesota	-	10	7	1.4	17.4	0.8	1.5	9.3	37.2	21.6	57.6	(D)	(NA)	(D)
Iowa	-	10	6	4.5	71.2	2.6	5.3	40.6	167.2	81.4	238.2	7.3	3.7	77.6
Missouri	E1	10	8	1.9	25.0	1.4	2.7	16.4	66.2	44.7	110.1	1.5	2.2	28.7
Nebraska	-	8	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	10.7
Kansas	E2	5	2	0.2	1.9	0.1	0.2	1.2	4.4	3.0	7.4	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	12	10	1.9	21.7	1.3	2.7	12.2	53.1	33.5	83.8	3.2	1.1	21.0
South Carolina	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	6	5	0.8	9.5	0.6	1.3	6.4	25.0	23.8	48.7	(D)	(NA)	(NA)
Florida	E1	13	4	0.3	3.5	0.2	0.4	2.1	7.9	5.4	12.7	0.6	0.3	3.3
East South Central Division:														
Kentucky	-	5	4	3.0	41.6	2.0	3.9	26.8	80.2	62.7	144.5	6.0	2.6	48.1
Tennessee	-	10	4	1.5	19.4	1.2	2.4	14.6	63.4	41.7	94.4	3.7	1.9	38.9
Alabama	-	9	7	4.2	52.0	3.5	6.7	38.0	114.8	57.8	170.6	8.2	(NA)	(D)
Mississippi	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	12	9	3.3	34.2	2.8	5.3	26.5	82.5	61.4	142.3	8.0	1.8	25.2
Louisiana	-	10	6	1.5	20.1	1.0	2.3	12.2	37.2	30.1	68.0	4.8	(NA)	(D)
Oklahoma	-	25	14	2.8	39.7	1.8	3.8	22.9	93.0	63.8	160.9	7.2	(NA)	(D)
Texas	-	97	53	8.6	115.7	6.3	13.0	78.9	278.1	236.3	499.0	23.4	7.3	120.4
Mountain Division:														
Colorado	-	5	5	1.3	18.0	0.9	1.7	10.8	37.9	27.1	64.7	(D)	1.1	24.2
New Mexico	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Nevada	E4	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Oregon	E1	7	4	0.4	5.0	0.3	0.6	3.6	9.0	7.1	16.2	0.1	(NA)	(NA)
California	-	117	57	8.0	120.2	4.9	10.0	64.9	277.1	148.2	411.9	10.4	6.2	132.6

See footnotes at end of table

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3495, WIRE SPRINGS													
United States	-	**332**	**226**	**21.7**	**253.5**	**18.0**	**35.4**	**187.8**	**497.7**	**458.6**	**957.7**	**27.5**	**23.7**	**340.7**
New England Division:													
Massachusetts	-	11	10	0.5	5.5	0.4	0.8	3.7	10.4	14.1	24.6	0.5	(NA)	(D)
Connecticut	-	33	22	1.5	15.0	1.2	2.4	10.3	27.2	16.8	43.9	1.6	1.8	24.0
Middle Atlantic Division:														
New York	-	16	9	0.6	6.6	0.5	1.0	4.8	14.8	8.7	23.5	0.6	0.7	12.5
New Jersey	-	10	5	0.3	3.6	0.3	0.6	2.9	7.0	5.0	11.9	0.3	0.3	4.3
Pennsylvania	-	13	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	15.1
East North Central Division:														
Ohio	-	29	15	1.2	12.8	1.0	2.1	9.1	27.7	27.3	54.9	1.4	1.3	18.3
Indiana	-	15	14	1.1	12.3	0.9	1.7	9.2	27.1	32.9	60.1	1.8	1.6	25.8
Illinois	-	52	35	3.0	36.5	2.5	4.8	27.0	68.4	51.2	121.7	4.0	4.2	57.9
Michigan	-	29	26	4.7	67.2	3.8	7.9	50.6	127.9	114.3	243.1	6.0	3.8	58.9
Wisconsin	-	4	4	0.2	2.8	0.2	0.3	1.8	5.3	3.5	8.9	0.2	0.3	2.9
West North Central Division:														
Missouri	E4	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	8.1
Nebraska	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	-	12	10	1.0	10.0	0.8	1.5	5.8	15.7	19.2	34.9	0.8	1.3	13.7
East South Central Division:														
Kentucky	-	6	5	2.2	23.9	1.9	3.7	19.5	55.7	51.4	107.2	(D)	1.2	21.1
Tennessee	-	7	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	3	3	0.2	1.4	0.2	0.3	1.0	3.3	5.1	8.4	0.3	(NA)	(D)
West South Central Division:														
Texas	-	12	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	37	25	1.5	17.7	1.2	2.3	12.4	35.2	28.8	63.7	1.3	1.8	25.9
INDUSTRY 3496, MISCELLANEOUS FABRICATED WIRE PRODUCTS														
United States	-	**1 114**	**387**	**32.4**	**354.5**	**25.5**	**49.4**	**232.2**	**721.7**	**728.3**	**1 435.0**	**47.3**	**33.2**	**504.4**
New England Division:														
Massachusetts	E2	44	12	0.7	6.7	0.5	1.0	4.2	12.4	10.6	22.8	0.7	(NA)	(D)
Rhode Island	-	12	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	24	11	0.8	9.3	0.6	1.2	5.5	14.6	18.9	34.6	1.2	1.3	22.0
Middle Atlantic Division:														
New York	E1	123	36	3.1	32.3	2.5	5.3	22.9	67.5	50.3	116.5	2.3	3.8	56.2
New Jersey	E1	73	24	2.0	23.3	1.5	3.1	13.7	51.2	45.0	95.1	4.6	1.7	24.2
Pennsylvania	-	69	29	3.1	36.7	2.3	4.7	23.1	80.0	79.2	155.6	4.6	3.4	53.4
East North Central Division:														
Ohio	-	71	28	2.0	22.3	1.6	3.1	13.7	41.1	37.9	78.4	1.6	2.4	37.2
Indiana	-	35	15	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	26.4
Illinois	E1	95	40	2.6	29.5	2.0	3.8	19.1	58.2	58.7	114.9	2.0	3.2	48.2
Michigan	-	53	23	2.2	26.0	1.7	3.3	18.1	46.2	50.3	95.6	1.8	2.0	31.1
Wisconsin	-	20	9	0.7	7.1	0.5	1.0	4.4	12.9	10.3	23.0	0.4	0.6	8.1
West North Central Division:														
Minnesota	-	13	6	0.2	2.4	0.2	0.3	1.5	4.0	2.7	6.6	0.1	1.3	8.4
Iowa	-	9	3	0.4	4.9	0.3	0.7	3.2	9.7	9.1	18.3	(D)	(NA)	(D)
Missouri	-	19	9	0.9	10.0	0.7	1.4	6.5	17.2	17.4	34.3	1.6	0.9	13.0
South Atlantic Division:														
Maryland	E1	14	7	0.6	7.1	0.5	0.9	4.4	13.8	11.9	25.8	1.0	0.5	7.6
North Carolina	-	10	6	0.6	6.2	0.5	0.9	3.8	23.6	21.0	44.2	0.8	(NA)	(D)
South Carolina	-	9	4	0.6	6.8	0.4	0.8	3.8	15.0	13.9	28.6	0.7	(NA)	(NA)
Florida	E2	25	5	0.3	2.6	0.2	0.4	1.7	5.2	7.1	13.1	1.1	0.3	4.3
East South Central Division:														
Kentucky	E2	12	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	18	13	1.3	10.2	1.0	2.0	7.2	26.5	23.0	47.5	(D)	1.0	12.9
Alabama	-	14	9	0.8	8.8	0.7	1.4	6.3	15.7	25.2	42.5	2.7	0.7	10.6
West South Central Division:														
Arkansas	-	5	3	0.4	3.1	0.4	0.6	2.5	5.5	8.0	13.3	(D)	0.5	6.0
Oklahoma	-	12	4	0.6	7.4	0.5	1.0	4.9	10.8	22.1	33.1	(D)	(NA)	(D)
Texas	E4	63	15	1.2	10.0	1.0	1.9	6.8	25.6	34.2	58.8	1.1	1.7	23.8
Mountain Division:														
Colorado	-	15	2	0.2	1.8	0.1	0.3	1.1	4.1	8.0	11.5	0.1	(NA)	(NA)
Pacific Division:														
Washington	-	17	4	0.3	3.0	0.2	0.4	1.9	7.6	11.8	19.3	0.7	(NA)	(D)
Oregon	-	17	4	0.3	3.2	0.2	0.4	2.2	8.5	10.6	19.0	0.4	0.2	4.2
California	-	151	43	2.7	30.2	2.1	4.3	19.8	73.4	67.8	139.1	3.4	2.4	41.0

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3497, METAL FOIL AND LEAF														
United States	-	**76**	**51**	**9.3**	**124.3**	**6.6**	**12.8**	**86.2**	**292.7**	**595.0**	**877.5**	**15.8**	**5.4**	**126.5**
New England Division:														
Massachusetts	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	E1	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	7	4	0.3	3.8	0.2	0.4	2.6	6.4	12.8	19.3	(D)	(NA)	(D)
New Jersey	-	12	7	1.0	15.6	0.7	1.5	9.3	35.8	38.5	73.3	3.9	0.9	23.9
East North Central Division:														
Ohio	-	9	9	1.9	26.7	1.4	2.7	18.4	71.1	102.5	173.4	2.4	(NA)	(D)
Indiana	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	E2	6	5	0.6	8.3	0.5	1.1	6.0	17.7	34.0	50.6	1.0	0.7	12.6
West North Central Division:														
Minnesota	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	11	5	0.4	5.0	0.3	0.5	3.2	17.7	20.0	37.3	(D)	(NA)	(D)
INDUSTRY 3498, FABRICATED PIPE AND FITTINGS														
United States	-	**579**	**278**	**28.2**	**390.0**	**21.4**	**40.6**	**265.4**	**887.2**	**1 015.4**	**1 872.7**	**51.0**	**17.5**	**363.1**
New England Division:														
Massachusetts	-	14	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	30	14	1.2	15.7	0.8	1.7	9.5	27.2	36.2	61.6	1.4	(NA)	(D)
New Jersey	-	23	14	1.8	24.6	1.2	2.1	12.5	45.9	42.8	89.1	2.0	(NA)	(D)
Pennsylvania	-	52	34	3.2	47.6	2.4	4.4	31.6	107.5	97.7	206.8	5.0	2.1	50.5
East North Central Division:														
Ohio	-	30	14	1.8	23.0	1.3	2.4	14.7	76.0	78.4	151.4	1.9	(NA)	(D)
Indiana	E1	15	8	0.5	5.3	0.4	0.8	3.9	7.7	16.0	24.7	0.6	0.6	6.3
Illinois	-	37	22	1.7	20.1	1.3	2.6	13.4	45.8	68.7	114.8	1.6	(NA)	(D)
Michigan	-	64	32	2.8	35.9	2.4	4.4	25.3	106.1	170.4	276.7	3.7	1.4	27.0
Wisconsin	-	17	5	0.4	5.4	0.3	0.6	3.7	10.7	17.2	27.4	0.4	0.2	3.6
West North Central Division:														
Missouri	-	6	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	6	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	5.5
South Carolina	-	6	3	0.6	8.5	0.5	1.0	6.4	21.7	18.9	40.6	1.0	(NA)	(D)
Georgia	-	8	5	0.2	2.4	0.1	0.2	1.4	4.7	9.6	15.1	(D)	(NA)	(NA)
Florida	E3	9	5	0.3	3.5	0.2	0.4	2.6	7.7	11.4	20.0	0.7	(NA)	(NA)
East South Central Division:														
Kentucky	-	7	5	0.9	11.4	0.7	1.4	8.5	21.2	29.8	48.9	(D)	0.4	7.4
Tennessee	-	8	6	0.6	6.0	0.5	0.9	4.2	14.7	15.4	29.4	2.1	(NA)	(D)
West South Central Division:														
Louisiana	-	8	3	0.3	4.1	0.2	0.4	3.3	5.7	6.9	12.7	0.5	(NA)	(NA)
Oklahoma	-	12	4	0.4	6.9	0.3	0.6	5.0	14.3	9.7	23.9	1.1	0.2	3.4
Texas	-	69	38	4.9	80.2	3.8	7.6	56.8	174.8	170.5	338.1	14.0	2.5	59.4
Mountain Division:														
Colorado	-	7	2	0.2	4.0	0.2	0.3	2.8	7.3	7.7	13.2	0.2	(NA)	(NA)
Utah	-	6	2	0.3	3.6	0.2	0.3	2.3	13.1	7.7	18.7	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	9	2	0.4	5.7	0.3	0.6	4.7	10.5	9.5	20.1	(D)	(NA)	(D)
Oregon	-	8	3	0.5	6.5	0.3	0.6	3.9	13.9	15.8	29.1	(D)	(NA)	(D)
California	E1	64	28	2.1	28.4	1.5	2.9	19.4	67.1	67.4	123.3	5.1	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3499, FABRICATED METAL PRODUCTS, N.E.C.													
United States	**E1**	**3 238**	**794**	**70.8**	**844.7**	**54.1**	**104.8**	**547.8**	**1 814.5**	**1 643.5**	**3 429.2**	**94.8**	**61.8**	**1 047.4**
New England Division:														
Massachusetts	-	101	30	1.8	22.1	1.4	2.8	15.0	39.9	29.8	68.9	2.2	1.6	24.0
Rhode Island	E1	29	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	7.8
Connecticut	E1	79	30	2.7	29.4	2.2	4.2	19.7	54.4	51.1	106.9	4.2	2.7	41.3
Middle Atlantic Division:														
New York	E2	286	62	4.4	49.9	3.5	6.7	31.9	98.9	82.1	179.5	4.5	3.6	49.5
New Jersey	E1	151	40	3.4	40.7	2.5	5.2	26.3	76.7	75.6	153.5	3.7	3.1	48.0
Pennsylvania	-	172	51	4.0	44.6	3.2	6.3	31.5	83.8	67.3	148.1	5.6	3.8	50.1
East North Central Division:														
Ohio	-	222	78	9.3	125.1	6.6	12.3	76.9	271.0	243.0	510.5	9.2	9.3	193.6
Indiana	-	90	27	3.3	38.3	2.4	4.7	23.9	75.8	60.0	134.2	3.6	2.6	35.5
Illinois	-	268	72	7.8	105.1	6.0	11.9	69.7	265.4	244.7	504.3	11.4	8.5	178.0
Michigan	E1	186	49	3.9	49.2	2.9	5.6	31.4	94.4	85.5	177.4	3.9	2.9	51.3
Wisconsin	-	79	22	1.4	16.3	1.1	2.0	10.5	37.7	36.2	73.3	3.5	1.1	16.0
West North Central Division:														
Minnesota	E1	65	15	1.2	16.0	0.9	1.7	9.3	32.5	30.4	62.0	2.6	0.9	12.2
Iowa	-	31	12	1.8	24.0	1.1	2.1	11.6	48.2	33.7	80.0	(D)	1.3	23.8
Missouri	E2	65	15	1.0	13.0	0.7	1.4	7.4	21.8	15.9	37.7	1.8	0.9	12.0
Nebraska	-	8	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	E5	25	4	0.2	2.2	0.2	0.3	1.3	4.5	5.2	9.4	0.3	0.3	7.9
South Atlantic Division:														
Maryland	-	35	9	0.8	10.8	0.7	1.3	8.2	37.0	39.7	75.4	1.6	0.9	22.6
Virginia	-	29	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	5.6
West Virginia	-	17	4	0.6	6.3	0.5	1.0	4.8	23.2	26.0	48.9	1.5	(NA)	(D)
North Carolina	-	37	8	0.6	6.6	0.5	1.0	4.3	11.1	11.1	21.9	0.6	0.4	5.5
South Carolina	-	26	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	E1	40	7	0.6	5.7	0.5	0.8	3.7	19.9	16.2	34.1	0.6	0.5	6.7
Florida	E2	97	22	1.6	17.7	1.3	2.5	11.4	36.9	30.0	66.1	2.0	1.2	14.8
East South Central Division:														
Kentucky	-	31	8	1.4	14.9	1.1	2.2	10.0	35.9	31.2	65.7	2.7	(NA)	(D)
Tennessee	-	50	12	1.3	12.7	1.1	2.2	9.6	25.0	27.1	50.8	2.3	(NA)	(D)
Alabama	-	46	16	1.3	15.2	1.0	1.7	8.5	34.9	32.7	67.3	1.4	(NA)	(D)
West South Central Division:														
Arkansas	-	17	4	1.0	10.2	0.7	1.5	7.8	18.9	21.1	41.6	(D)	(NA)	(D)
Louisiana	E3	23	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	E2	46	14	0.9	10.8	0.7	1.5	7.2	19.7	17.8	37.3	(D)	0.5	7.5
Texas	E2	180	32	2.3	22.1	1.8	3.5	14.6	49.7	47.1	95.1	7.1	2.2	34.3
Mountain Division:														
Colorado	E1	39	10	0.7	8.4	0.6	1.2	5.5	17.0	15.0	32.0	1.8	0.5	9.4
Arizona	E1	27	2	0.2	1.8	0.1	0.2	1.1	3.6	4.7	7.8	0.1	(NA)	(NA)
Utah	E3	20	3	0.2	2.1	0.2	0.3	1.4	3.7	3.9	7.5	0.2	(NA)	(NA)
Pacific Division:														
Washington	E1	53	8	0.4	5.2	0.3	0.6	3.8	10.3	7.9	17.8	0.8	(NA)	(D)
Oregon	E1	42	7	0.8	8.3	0.6	1.2	5.8	16.7	21.5	37.8	1.0	(NA)	(D)
California	E1	436	78	6.2	73.3	5.0	9.4	49.1	155.1	130.4	282.1	6.7	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Steel springs, except wire (SIC 3493)	Valves and pipe fittings (SIC 3494)	Wire springs (SIC 3495)	Miscellaneous fabricated wire products (SIC 3496)	Metal foil and leaf (SIC 3497)	Fabricated pipe and fittings (SIC 3498)	Fabricated metal products, n.e.c. (SIC 3499)
Primary product specialization ratio[1]	percent	84	89	92	91	80	94	89
Coverage ratio[2]	do	72	88	92	37	63	93	83
All establishments	number	131	902	332	1 114	76	579	3 238
With 1 to 19 employees	do	72	370	106	727	25	301	2 444
With 20 to 99 employees	do	31	274	172	307	27	207	666
With 100 employees or more	do	28	258	54	80	24	71	128
All employees, average for year	1,000	8.2	108.7	21.7	32.4	9.3	28.2	70.8
Payroll for year, all employees	mil. dol.	119.8	1 467.3	253.5	354.5	124.3	390.0	844.7
Production workers:								
Average for year	1,000	6.6	76.0	18.0	25.5	6.6	21.4	54.1
March	do	6.1	74.3	17.3	25.2	6.5	20.7	52.9
May	do	6.6	75.8	17.9	25.7	6.5	21.1	54.2
August	do	6.8	75.9	18.1	25.1	6.6	21.8	54.3
November	do	6.9	77.8	18.7	25.9	6.6	21.7	54.6
Hours	millions	13.3	149.6	35.4	49.4	12.8	40.6	104.8
January to March	do	3.0	36.7	8.3	10.7	3.2	9.9	25.7
April to June	do	3.4	38.1	9.1	13.1	3.2	10.1	26.8
July to September	do	3.4	36.5	9.0	12.5	3.3	10.1	26.0
October to December	do	3.4	38.3	9.1	13.2	3.2	10.4	26.3
Wages	mil. dol.	88.0	909.8	187.8	232.2	86.2	265.4	547.8
Cost of materials, etc.	do	259.3	2 382.5	458.6	728.3	595.0	1 015.4	1 643.5
Materials, parts, containers, etc., consumed	do	235.7	2 051.6	419.1	649.3	559.6	846.5	1 439.3
Resales	do	6.4	180.0	16.4	42.5	19.8	124.5	110.6
Fuels consumed	do	9.2	27.3	4.2	7.1	3.9	7.4	17.0
Purchased electric energy	do	4.6	51.2	7.0	12.6	10.0	10.3	27.2
Contract work	do	3.4	72.5	12.0	16.8	1.7	26.7	49.4
Value of shipments, including resales	do	500.5	5 662.3	957.7	1 435.0	877.5	1 872.7	3 429.2
Value of resales	do	6.9	263.4	17.8	50.0	21.5	158.5	154.4
Value added by manufacture	do	249.9	3 385.9	497.7	721.7	292.7	887.2	1 814.5
Manufacturers' inventories:								
Beginning of year	do	73.7	1 374.8	105.9	233.6	122.9	395.3	539.2
Finished products	do	20.8	482.5	24.9	85.6	48.0	128.6	166.7
Work in process	do	15.5	531.2	25.9	51.5	18.6	110.0	152.4
Materials, supplies, fuel, etc.	do	37.3	361.1	55.1	96.5	56.3	156.7	220.1
End of year	do	81.6	1 508.2	104.5	252.8	139.0	418.4	574.3
Finished products	do	27.2	509.3	24.8	95.9	56.2	134.6	184.0
Work in process	do	17.8	610.6	24.6	56.1	20.5	133.8	163.9
Materials, supplies, fuel, etc.	do	36.6	388.3	55.0	100.7	62.2	150.0	226.5
Capital expenditures for plant and equipment	do	15.3	230.1	31.1	50.3	16.3	56.5	103.8
New capital expenditures	do	14.1	201.2	27.6	47.3	15.8	51.0	94.8
New buildings and other structures	do	2.4	42.5	4.5	10.6	1.8	12.7	18.5
New machinery and equipment	do	11.7	158.7	23.1	36.6	14.0	38.3	76.3
Used capital expenditures	do	1.2	28.8	3.6	3.0	0.5	5.5	9.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Steel springs, except wire (SIC 3493)		Valves and pipe fittings (SIC 3494)		Wire springs (SIC 3495)		Miscellaneous fabricated wire products (SIC 3496)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	(0.8)	29	8.1	4	(1.6)	30	(1.9)	34
Response coverage ratio[2] (percent)	60	(X)	54	(X)	66	(X)	73	(X)
Machinery	3.7	10	30.4	8	(6.1)	25	(7.6)	15
Response coverage ratio[2] (percent)	60	(X)	55	(X)	55	(X)	65	(X)
Cost of purchased communication services	(1.2)	18	20.4	5	(2.5)	33	(4.0)	18
Response coverage ratio[2] (percent)	77	(X)	55	(X)	56	(X)	66	(X)
Rental payments	1.5	14	34.6	3	7.1	11	11.9	9
Buildings and other structures	(0.8)	26	12.4	7	(4.1)	16	6.1	11
Machinery and equipment	0.7	9	22.2	3	3.0	10	5.8	13
Supplemental labor costs	25.1	3	298.4	3	55.3	9	61.1	3
Legal costs	9.4	3	122.8	14	23.1	3	30.5	3
Voluntary costs	15.7	4	(175.6)	37	32.2	14	30.6	4
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	36.0	6	452.6	3	(61.2)	15	116.6	6
New capital expenditures	(2.1)	15	43.5	14	(4.4)	21	(14.5)	25
Used capital expenditures	(0.3)	14	(8.5)	37	(1.3)	72	(0.4)	31
Retirements	-	(X)	12.3	9	3.0	5	(0.7)	19
End of year	38.3	5	492.3	3	63.8	14	130.8	7
Machinery and equipment:								
Beginning of year	81.3	4	1,204.1	2	155.9	7	255.1	5
New capital expenditures	11.9	4	160.8	6	21.3	11	(44.2)	17
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(3.2)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(4.3)	(A)	(D)	(A)	(D)	(A)
All other[3]	(10.9)	(A)	(137.4)	15	(17.0)	(A)	(33.1)	60
New machinery and equipment, n.s.k.[4]	(0.8)	(A)	(15.9)	(A)	(3.3)	(A)	(8.8)	(A)
Used capital expenditures	1.0	10	(25.5)	15	(3.2)	38	(1.8)	20
Retirements	(0.9)	15	66.1	7	7.8	4	5.9	8
End of year	93.2	4	1,324.3	2	172.6	6	295.3	5
Total gross value of depreciable assets:								
Beginning of year	117.2	4	1,656.7	1	217.1	9	371.7	4
New capital expenditures	14.0	5	204.3	5	25.7	11	(58.7)	17
Used capital expenditures	1.3	11	(34.0)	20	(4.5)	39	(2.2)	18
Retirements	(1.0)	19	78.3	6	10.7	4	6.6	9
End of year	131.5	4	1,816.6	1	236.5	8	426.0	4
Depreciation charges during 1977	8.1	4	148.9	3	17.4	11	27.6	4
Buildings and other structures	1.4	6	41.3	2	(2.7)	19	5.1	7
Machinery and equipment	6.7	4	107.7	3	14.7	9	22.5	5

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Metal foil and leaf (SIC 3497)		Fabricated pipe and fittings (SIC 3498)		Fabricated metal products, n.e.c. (SIC 3499)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	1.6	6	(2.2)	18	(3.4)	28
Response coverage ratio[2] (percent)	64	(X)	60	(X)	61	(X)
Machinery	(6.3)	17	9.3	10	16.2	9
Response coverage ratio[2] (percent)	65	(X)	53	(X)	59	(X)
Cost of purchased communication services	1.4	9	(4.6)	19	11.3	11
Response coverage ratio[2] (percent)	79	(X)	60	(X)	56	(X)
Rental payments	3.9	8	10.6	7	29.3	6
Buildings and other structures	2.5	13	5.7	10	19.9	6
Machinery and equipment	1.4	5	4.9	7	9.4	8
Supplemental labor costs	26.1	2	72.9	2	142.2	2
Legal costs	10.6	2	33.5	5	68.4	2
Voluntary costs	15.5	3	39.4	4	73.7	2
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	54.7	5	129.7	4	264.9	5
New capital expenditures	(1.4)	20	11.4	14	(18.9)	28
Used capital expenditures	-	(X)	0.6	1	(2.7)	41
Retirements	(1.2)	21	(0.3)	(A)	(9.5)	18
End of year	54.9	5	141.4	4	277.0	5
Machinery and equipment:						
Beginning of year	167.3	3	282.0	6	630.5	3
New capital expenditures	14.0	7	34.0	7	75.9	9
Automobiles, trucks, etc., for highway use[3]	(0.6)	(A)	(2.0)	(A)	(2.5)	(A)
Computers and peripheral data processing equipment[3]	(Z)	(A)	(0.5)	(A)	(0.6)	(A)
All other[3]	(12.9)	(A)	(25.3)	79	(57.6)	35
New machinery and equipment, n.s.k.[4]	(0.5)	(A)	(6.2)	(A)	(15.2)	(A)
Used capital expenditures	(0.6)	18	3.5	14	(10.7)	49
Retirements	6.7	17	(19.3)	65	(30.4)	20
End of year	175.2	3	300.3	3	686.6	3
Total gross value of depreciable assets:						
Beginning of year	222.0	3	411.7	4	895.3	2
New capital expenditures	15.4	7	45.5	7	94.8	11
Used capital expenditures	(0.6)	17	4.1	12	(13.4)	47
Retirements	(7.9)	15	(19.5)	58	(39.8)	16
End of year	230.1	3	441.8	3	963.7	2
Depreciation charges during 1977	12.0	4	30.6	5	67.0	6
Buildings and other structures	1.7	4	6.9	10	(14.4)	17
Machinery and equipment	10.3	4	23.8	5	52.6	4

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3493, STEEL SPRINGS, EXCEPT WIRE												
Total	-	**131**	**8.2**	**119.8**	**6.6**	**13.3**	**88.0**	**249.9**	**259.3**	**500.5**	**14.1**	**81.6**
Establishments with an average of—												
1 to 4 employees	E8	44	0.1	1.2	0.1	0.1	0.9	1.9	2.9	5.1	0.1	0.8
5 to 9 employees	E8	11	0.1	1.1	0.1	0.1	0.8	1.6	2.4	4.1	0.1	0.7
10 to 19 employees	E5	17	0.2	3.3	0.2	0.4	2.3	4.5	6.2	10.7	0.2	1.9
20 to 49 employees	E1	23	0.6	7.9	0.5	0.9	5.2	19.3	24.5	42.8	1.0	7.6
50 to 99 employees	-	8	0.6	8.2	0.5	0.9	5.4	16.2	12.3	27.9	0.2	4.9
100 to 249 employees	-	19	3.1	41.7	2.4	4.6	28.6	97.7	96.1	189.4	4.3	37.2
250 to 499 employees	-	8	(3.5)	(56.4)	(2.9)	(6.2)	(44.8)	(108.6)	(114.7)	(220.6)	(8.3)	(28.5)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	58	0.4	4.9	0.3	0.6	3.6	7.6	11.2	18.7	0.3	3.2
INDUSTRY 3494, VALVES AND PIPE FITTINGS												
Total	-	**902**	**108.7**	**1 467.3**	**76.0**	**149.6**	**909.8**	**3 385.9**	**2 382.5**	**5 662.3**	**201.2**	**1 508.2**
Establishments with an average of—												
1 to 4 employees	E7	150	0.3	3.4	0.2	0.4	2.1	2.7	5.8	14.0	0.6	3.7
5 to 9 employees	E6	95	0.7	8.3	0.5	0.9	5.2	19.0	15.7	34.3	3.8	9.1
10 to 19 employees	E5	125	1.8	23.0	1.2	2.5	13.2	55.5	41.0	95.1	3.4	31.6
20 to 49 employees	E1	163	5.0	63.0	3.6	7.3	38.1	166.7	136.9	299.7	13.4	65.3
50 to 99 employees	-	111	7.8	99.9	5.5	10.9	61.2	254.0	221.5	458.1	17.6	120.2
100 to 249 employees	-	117	18.9	243.0	13.6	26.8	153.2	649.3	458.2	1 081.2	40.2	276.5
250 to 499 employees	-	90	30.6	410.1	21.0	41.6	246.7	953.3	675.1	1 585.3	57.0	409.2
500 to 999 employees	-	41	28.5	383.6	19.6	38.4	240.8	811.0	554.1	1 357.9	39.2	378.7
1,000 to 2,499 employees	-	9	(15.2)	(233.1)	(10.8)	(20.9)	(149.3)	(474.3)	(274.1)	(736.8)	(26.1)	(213.8)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	271	2.1	26.7	1.5	2.9	16.6	59.0	42.7	101.7	4.3	28.6
INDUSTRY 3495, WIRE SPRINGS												
Total	-	**332**	**21.7**	**253.5**	**18.0**	**35.4**	**187.8**	**497.7**	**458.6**	**957.7**	**27.6**	**104.5**
Establishments with an average of—												
1 to 4 employees	E5	30	0.1	0.6	0.1	0.1	0.4	(S)	1.2	3.1	(Z)	0.3
5 to 9 employees	E8	28	0.2	2.1	0.2	0.3	1.5	3.8	3.3	7.0	0.3	0.9
10 to 19 employees	E4	48	0.7	7.7	0.6	1.1	5.2	15.2	13.3	28.4	0.8	2.8
20 to 49 employees	-	98	3.3	35.7	2.7	5.4	24.9	70.0	59.5	129.2	3.1	13.5
50 to 99 employees	-	74	5.1	53.8	4.4	8.4	40.1	102.9	105.5	207.9	6.5	24.2
100 to 249 employees	-	40	5.8	70.6	4.6	9.2	49.9	138.2	133.3	271.2	8.8	31.3
250 to 499 employees	-	11	4.2	50.4	3.5	6.7	38.4	111.5	91.8	203.7	6.8	21.3
500 to 999 employees	-	3	2.3	32.6	2.1	4.3	27.4	56.5	50.7	107.2	1.2	10.3
Covered by administrative records[2]	E0	70	0.7	7.5	0.6	1.1	5.5	13.0	11.6	24.5	0.7	3.2
INDUSTRY 3496, MISCELLANEOUS FABRICATED WIRE PRODUCTS												
Total	-	**1 114**	**32.4**	**354.5**	**25.5**	**49.4**	**232.2**	**721.7**	**728.3**	**1 435.0**	**47.3**	**252.8**
Establishments with an average of—												
1 to 4 employees	E6	376	0.7	7.3	0.7	1.1	4.9	16.3	19.8	36.1	0.8	6.2
5 to 9 employees	E2	158	1.1	11.8	0.9	1.7	7.9	23.4	28.8	51.9	1.2	7.3
10 to 19 employees	-	193	2.6	29.6	2.0	4.0	18.7	57.9	66.2	123.3	4.0	16.3
20 to 49 employees	E1	228	7.0	73.8	5.4	10.4	46.6	150.5	162.7	311.1	7.2	47.0
50 to 99 employees	-	79	5.2	55.7	4.2	8.1	37.3	120.6	118.6	238.3	7.7	35.7
100 to 249 employees	-	64	9.2	93.1	7.2	14.6	61.4	204.6	191.0	390.2	11.5	80.5
250 to 499 employees	-	14	(6.6)	(83.2)	(5.1)	(9.6)	(55.3)	(148.5)	(141.1)	(284.1)	(14.8)	(59.8)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	351	0.8	8.2	0.7	1.3	5.5	16.0	19.0	34.9	0.9	6.4
INDUSTRY 3497, METAL FOIL AND LEAF												
Total	-	**76**	**9.3**	**124.3**	**5.5**	**12.8**	**86.2**	**292.7**	**595.0**	**877.5**	**15.8**	**139.0**
Establishments with an average of—												
1 to 4 employees	E3	5	(Z)	0.1	(Z)	(Z)	0.1	0.4	0.6	1.0	(Z)	0.2
5 to 9 employees	E7	7	(Z)	0.6	(Z)	0.1	0.4	1.3	2.2	3.5	0.1	0.6
10 to 19 employees	E4	13	0.2	2.4	0.1	0.3	1.5	5.9	9.0	14.9	0.2	2.3
20 to 49 employees	-	11	0.3	4.3	0.2	0.5	2.5	12.4	23.7	35.5	0.7	5.8
50 to 99 employees	-	16	1.1	14.6	0.8	1.7	9.8	38.3	63.2	101.3	2.7	13.3
100 to 249 employees	-	12	2.0	26.0	1.5	2.9	16.4	78.4	91.0	166.8	5.4	26.0
250 to 499 employees	-	8	2.6	40.2	2.0	4.0	29.7	83.7	250.3	326.7	4.7	58.3
500 to 999 employees	-	3	(3.0)	(36.0)	(1.9)	(3.4)	(25.8)	(72.2)	(154.9)	(227.9)	(1.9)	(32.5)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	16	0.2	2.0	0.1	0.3	1.3	4.8	8.2	13.0	0.3	2.0
INDUSTRY 3498, FABRICATED PIPE AND FITTINGS												
Total	-	**579**	**28.2**	**390.0**	**21.4**	**40.6**	**265.4**	**887.2**	**1 015.4**	**1 872.7**	**51.0**	**418.4**
Establishments with an average of—												
1 to 4 employees	E7	135	0.2	3.4	0.2	0.3	2.4	6.4	7.8	14.4	0.5	2.8
5 to 9 employees	E4	74	0.5	6.8	0.4	0.6	5.0	13.6	19.0	32.6	0.9	5.7
10 to 19 employees	E2	92	1.4	18.2	1.0	1.8	11.9	38.1	40.8	77.9	2.2	14.0
20 to 49 employees	-	137	4.4	58.9	3.5	6.6	39.5	157.7	269.7	429.1	7.7	62.2
50 to 99 employees	-	70	4.8	57.0	3.9	7.5	40.7	141.3	156.7	293.9	9.9	62.7
100 to 249 employees	-	49	6.9	97.5	5.1	10.1	68.5	213.9	218.5	419.6	11.0	125.9
250 to 499 employees	-	15	5.3	69.5	4.0	7.5	47.8	157.0	159.9	312.5	7.6	72.5
500 to 999 employees	-	7	4.7	78.7	3.3	6.1	49.6	159.2	142.9	292.9	11.2	72.6
Covered by administrative records[2]	E0	162	0.6	8.5	0.5	0.7	6.2	15.9	19.9	35.7	1.2	7.4

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3499, FABRICATED METAL PRODUCTS, N.E.C.												
Total	**E1**	**3 238**	**70.8**	**844.7**	**54.1**	**104.8**	**547.8**	**1 814.5**	**1 643.5**	**3 429.2**	**94.8**	**574.3**
Establishments with an average of—												
1 to 4 employees	E7	1 309	2.1	24.1	2.0	3.1	15.3	49.8	46.6	100.4	3.0	15.9
5 to 9 employees	E4	526	3.6	43.3	2.7	5.3	27.6	82.8	72.2	154.6	4.0	21.1
10 to 19 employees	E1	609	8.4	96.7	6.2	12.2	60.1	183.0	179.6	359.5	11.2	49.4
20 to 49 employees	E1	498	15.4	178.9	11.8	23.2	115.0	356.5	303.4	653.6	23.0	87.3
50 to 99 employees	-	168	11.9	133.3	9.5	18.5	90.6	283.6	267.1	544.2	20.3	98.4
100 to 249 employees	-	97	14.5	175.7	11.3	22.1	120.3	423.0	456.0	874.4	16.5	151.1
250 to 499 employees	-	20	6.6	76.1	5.1	9.8	51.1	152.2	126.0	273.3	(16.7)	59.9
500 to 999 employees	-	9	(8.4)	(116.7)	(5.6)	(10.6)	(68.0)	(283.5)	(192.6)	(469.2)	(D)	66.2
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	25.1
Covered by administrative records[2]	E9	1 114	3.4	38.3	2.8	5.0	24.4	76.9	66.4	143.3	3.8	22.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3493	**Steel springs, except wire:**										
	Entire industry	131	8.2	119.8	6.6	13.3	88.0	249.9	259.3	500.5	14.1
	Establishments with 75 percent specialization or more	112	5.0	74.0	4.2	8.3	56.7	152.6	173.5	319.9	10.4
34931	Hot formed springs:										
	Establishments with this product class primary	47	5.9	86.5	4.7	9.4	64.0	186.3	210.4	389.0	12.3
	Establishments with 75 percent specialization or more in class	36	4.3	64.5	3.6	7.2	50.1	135.8	153.6	283.3	9.7
34932	Cold formed flat springs made of sheet and strip stock:										
	Establishments with this product class primary	13	1.9	27.4	1.5	3.1	19.8	54.8	35.7	89.3	1.4
	Establishments with 75 percent specialization or more in class	4	0.3	3.2	0.2	0.4	2.0	6.8	6.0	12.7	0.2
3494	**Valves and pipe fittings:**										
	Entire industry	902	108.7	1 467.3	76.0	149.6	909.8	3 385.9	2 382.5	5 662.3	201.2
	Establishments with 75 percent specialization or more	803	84.1	1 130.9	58.8	116.5	700.5	2 629.3	1 870.3	4 399.3	(D)
34942	Pneumatic and hydraulic valves for power transfer:										
	Establishments with this product class primary	70	11.1	156.6	7.5	15.2	90.9	353.1	184.0	516.3	15.6
	Establishments with 75 percent specialization or more in class	49	6.2	83.3	4.3	8.5	49.5	192.2	110.0	292.7	9.1
34943	Other metal valves for piping systems and equipment:										
	Establishments with this product class primary	160	41.0	567.5	28.3	56.5	354.5	1 300.9	875.0	2 139.2	85.8
	Establishments with 75 percent specialization or more in class	119	27.4	376.1	18.9	38.1	239.3	926.8	639.1	1 521.5	63.8
34944	Plumbing and heating valves and specialties:										
	Establishments with this product class primary	35	4.7	51.8	3.5	6.6	34.8	130.8	98.5	225.4	7.7
	Establishments with 75 percent specialization or more in class	20	2.5	29.2	1.7	3.5	19.1	74.1	54.7	126.7	4.3
34945	Metal fittings, flanges, and unions for piping systems:										
	Establishments with this product class primary	114	19.8	256.5	14.8	28.7	173.9	576.4	524.9	1 095.4	35.5
	Establishments with 75 percent specialization or more in class	85	11.1	146.9	8.3	16.1	98.5	361.1	335.0	685.5	23.4
34946	Fittings and assemblies for tubing and hose:										
	Establishments with this product class primary	67	9.0	117.6	6.3	12.8	72.0	295.9	291.1	577.3	11.2
	Establishments with 75 percent specialization or more in class	52	5.7	71.8	3.9	7.8	42.5	173.4	191.7	358.8	6.3
34947	Automatic regulating and control valves:										
	Establishments with this product class primary	65	15.0	216.4	9.8	18.8	125.1	506.0	267.1	743.2	32.0
	Establishments with 75 percent specialization or more in class	45	7.1	95.7	4.7	9.2	55.5	215.2	121.7	320.7	21.4
34948	Solenoid valves:										
	Establishments with this product class primary	13	3.6	44.5	2.5	4.7	23.6	103.7	48.4	150.3	3.3
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3495	**Wire springs:**										
	Entire industry	332	21.7	253.5	18.0	35.4	187.8	497.7	458.6	957.7	27.6
	Establishments with 75 percent specialization or more	300	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34952	Precision mechanical springs:										
	Establishments with this product class primary	142	10.0	121.9	8.2	16.2	87.7	242.9	193.9	436.2	14.4
	Establishments with 75 percent specialization or more in class	103	6.1	70.2	5.0	10.0	50.8	136.8	111.3	248.0	7.9
34953	Other wire springs:										
	Establishments with this product class primary	93	10.6	119.1	8.9	17.3	91.3	233.9	247.0	480.7	11.8
	Establishments with 75 percent specialization or more in class	87	9.3	104.5	8.0	15.7	82.7	208.7	226.5	435.1	8.7
3496	**Miscellaneous fabricated wire products:**										
	Entire industry	1 114	32.4	354.5	25.5	49.4	232.2	721.7	728.3	1 435.0	47.3
	Establishments with 75 percent specialization or more	1 055	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34961	Noninsulated ferrous wire, rope, cable, and strand:										
	Establishments with this product class primary	67	2.8	31.5	2.1	4.3	19.8	63.1	85.3	150.7	6.6
	Establishments with 75 percent specialization or more in class	56	2.2	22.8	1.7	3.3	15.2	45.8	65.7	113.5	(D)
34964	Ferrous wire cloth and woven wire products:										
	Establishments with this product class primary	51	2.9	35.0	2.1	4.1	20.9	77.3	60.0	136.8	5.1
	Establishments with 75 percent specialization or more in class	41	1.9	23.1	1.4	2.8	13.2	55.0	43.1	97.2	3.9
34965	Nonferrous wire cloth and woven wire products:										
	Establishments with this product class primary	19	1.6	18.7	1.2	2.6	12.5	33.4	41.3	76.1	3.5
	Establishments with 75 percent specialization or more in class	12	0.8	9.2	0.6	1.1	5.7	18.4	19.7	37.7	(D)
34966	Fence and fence gates (not made by wiredrawers):										
	Establishments with this product class primary	41	1.6	15.6	1.2	2.4	9.1	49.4	64.3	109.9	0.7
	Establishments with 75 percent specialization or more in class	33	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34967	Steel nails and spikes (not made by wiredrawers):										
	Establishments with this product class primary	11	2.4	32.0	1.9	3.3	21.8	52.4	49.3	99.3	2.1
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34968	Other fabricated wire products:										
	Establishments with this product class primary	224	14.6	158.7	11.6	23.0	106.3	326.3	308.5	624.7	23.4
	Establishments with 75 percent specialization or more in class	194	12.3	131.4	9.9	19.6	89.9	265.7	260.3	519.5	20.3
3497	**Metal foil and leaf:**										
	Entire industry	76	9.3	124.3	6.6	12.8	86.2	292.7	595.0	877.5	15.8
	Establishments with 75 percent specialization or more	62	5.4	76.0	4.0	7.8	50.8	169.5	382.9	543.9	11.9
34971	Converted aluminum foil packaging products:										
	Establishments with this product class primary	15	2.3	32.2	1.8	3.6	23.0	73.2	258.8	325.0	3.6
	Establishments with 75 percent specialization or more in class	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34972	Laminated aluminum foil flexible packaging:										
	Establishments with this product class primary	18	4.8	63.6	3.2	6.2	45.1	131.9	259.0	390.1	4.7
	Establishments with 75 percent specialization or more in class	9	1.4	21.5	1.1	2.0	15.3	36.9	95.3	133.1	1.2
34973	Converted foil for nonpackaging applications:										
	Establishments with this product class primary	22	1.9	25.4	1.4	2.7	16.0	80.5	64.9	143.2	7.0
	Establishments with 75 percent specialization or more in class	18	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3498	**Fabricated pipe and fittings:**										
	Entire industry	579	28.2	390.0	21.4	40.6	265.4	887.2	1 015.4	1 872.7	51.0
	Establishments with 75 percent specialization or more	539	24.5	343.6	18.7	35.4	240.0	774.4	911.1	1 659.2	46.3
3499	**Fabricated metal products, n.e.c.:**										
	Entire industry	3 238	70.8	844.7	54.1	104.8	547.8	1 814.5	1 643.5	3 429.2	94.8
	Establishments with 75 percent specialization or more	3 021	57.7	676.0	44.7	86.4	443.5	1 448.4	1 351.7	2 778.7	80.8
34991	Safes and vaults:										
	Establishments with this product class primary	32	5.4	74.0	3.3	6.2	39.0	179.9	115.1	292.9	3.1
	Establishments with 75 percent specialization or more in class	26	3.7	49.2	2.3	4.2	26.4	127.6	79.0	207.1	2.2
34992	Collapsible tubes:										
	Establishments with this product class primary	26	3.5	34.0	3.1	5.9	28.0	69.9	54.2	120.7	3.7
	Establishments with 75 percent specialization or more in class	22	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34993	Flat metal strapping:										
	Establishments with this product class primary	23	2.1	35.1	1.6	3.2	25.1	139.3	188.7	321.9	4.6
	Establishments with 75 percent specialization or more in class	22	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34994	Other fabricated metal products, n.e.c.:										
	Establishments with this product class primary	1 170	45.8	542.8	35.2	68.8	355.0	1 118.6	1 030.3	2 129.2	63.1
	Establishments with 75 percent specialization or more in class	1 001	35.2	408.8	27.5	53.7	269.8	833.5	802.5	1 622.6	51.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3493	Steel springs, except wire									
	1977	500.5	412.2	79.0	9.3	84	571.0	412.2	158.0	72
	1972	331.4	264.8	60.6	6.0	81	361.8	264.8	97.0	73
	1967	192.4	165.0	22.0	5.4	88	264.0	165.0	99.0	63
3494	Valves and pipe fittings									
	1977	5,662.3	4,743.7	592.1	326.5	89	5,403.0	4,743.7	659.3	88
	1972	2,956.9	2,485.1	285.3	186.5	90	2,891.6	2,485.1	406.5	86
	1967	2,274.5	1,845.5	296.5	132.5	86	2,091.9	1,845.5	246.4	88
3495	Wire springs									
	1977	957.7	857.6	77.6	22.5	92	933.0	857.6	75.4	92
	1972	611.9	528.4	72.4	11.1	88	566.1	528.4	37.7	93
	1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3496	Miscellaneous fabricated wire products									
	1977	1,435.0	1,248.2	123.5	63.3	91	3,336.7	1,248.2	2,088.5	37
	1972	959.7	836.4	62.7	60.6	93	2,111.0	836.4	1,274.6	39
	1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3497	Metal foil and leaf									
	1977	877.5	672.8	171.9	32.8	80	1,070.3	672.8	397.5	63
	1972	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	1967	265.5	215.1	37.7	12.7	85	385.6	215.1	170.5	56
3498	Fabricated pipe and fittings									
	1977	1,872.7	1,584.4	99.0	189.3	94	1,698.1	1,584.4	113.6	93
	1972	704.4	605.2	35.4	63.8	94	670.5	605.2	65.3	90
	1967	508.1	440.0	22.8	45.3	95	486.3	440.0	46.3	90
3499	Fabricated metal products, n.e.c.									
	1977	3,429.2	2,821.1	338.2	269.9	89	3,390.3	2,821.1	569.2	83
	1972	1,938.6	1,570.5	191.2	176.9	89	2,131.8	1,570.5	561.3	74
	1967	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

(NA) Not available. n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Steel springs, except wire (SIC 3493)	Valves and pipe fittings (SIC 3494)	Wire springs (SIC 3495)	Miscellaneous fabricated wire products (SIC 3496)	Metal foil and leaf (SIC 3497)	Fabricated pipe and fittings (SIC 3498)	Fabricated metal products, n.e.c. (SIC 3499)	Other industries
	Total	(X)	500.5	5,662.3	957.7	1,435.0	877.5	1,872.7	3,429.2	(X)
	Primary products	(X)	412.2	4,743.7	857.6	1,248.2	672.8	1,584.4	2,821.1	(X)
	Secondary products	(X)	79.0	592.1	77.6	123.5	171.9	99.0	338.2	(X)
	Miscellaneous receipts	(X)	9.3	326.5	22.5	63.3	32.8	189.3	269.9	(X)
3493-	Steel springs, except wire	571.0	412.2	-	(D)	(D)	-	-	-	125.0
34931	Hot formed springs	454.2	329.5	-	(D)	(D)	-	-	-	123.2
34932	Cold formed flat springs made of sheet and strip stock	94.3	61.3	-	(D)	-	-	-	-	(D)
34930	Steel springs, except wire, n.s.k	22.2	21.4	-	.1	(D)	-	-	-	(D)
3494-	Valves and pipe fittings	5,403.0	-	4,743.7	-	-	-	(D)	(D)	622.0
34942	Pneumatic and hydraulic valves for power transfer	535.3	-	409.7	-	-	-	-	(D)	(D)
34943	Other metal valves for piping systems and equipment	2,113.4	-	1,869.5	-	-	-	(D)	(D)	237.5
34944	Plumbing and heating valves and specialties	206.6	-	(D)	-	-	-	-	-	(D)
34945	Metal fittings, flanges, and unions and piping system	1,018.8	-	916.3	-	-	-	(D)	(D)	87.8
34946	Fittings and assemblies for tubing and hose	482.3	-	457.0	-	-	-	(D)	(D)	(D)
34947	Automatic regulating and control valves	696.1	-	573.5	-	-	-	-	-	122.5
34948	Solenoid valves	114.8	-	(D)	-	-	-	-	-	(D)
34940	Valves and pipe fittings, n.s.k	235.7	-	211.3	-	-	-	1.0	-	23.4
3495-	Wire springs	933.0	(D)	-	857.6	(D)	-	-	-	24.2
34952	Precision mechanical springs	392.0	(D)	-	344.2	(D)	-	-	-	10.2
34953	Other wire springs	500.1	(D)	-	473.3	(D)	-	-	-	13.2
34950	Wire springs, n.s.k	40.9	-	-	40.1	-	-	-	-	.8
3496-	Miscellaneous fabricated wire products	1,440.0	(D)	-	14.3	1,248.2	-	.4	(D)	166.2
34961	Noninsulated ferrous wire, rope, cable, and strand	171.4	(D)	-	(D)	136.1	-	-	(D)	19.0
34964	Ferrous wire cloth and woven wire products	137.7	-	-	-	116.2	-	-	-	21.5
34965	Nonferrous wire cloth and woven wire products	66.1	-	-	-	59.1	-	-	-	7.0
34966	Fence and fence gates (not made by wiredrawers)	131.3	-	-	(D)	95.6	-	-	-	(D)
34967	Steel nails and spikes (not made by wiredrawers)	88.1	-	-	(D)	66.4	-	-	-	(D)
34968	Other fabricated wire products	626.0	-	-	(D)	563.0	-	-	(D)	55.6
34960	Miscellaneous fabricated wire products, n.s.k	219.5	-	-	.4	211.8	-	.4	1.0	5.9
3497-	Metal foil and leaf	1,070.3	-	-	-	-	672.8	-	-	397.4
34971	Converted aluminum foil packaging products	386.7	-	-	-	-	254.9	-	-	131.7
34972	Laminated aluminum foil flexible packaging	496.9	-	-	-	-	264.7	-	-	232.2
34973	Converted foil for nonpackaging applications	165.1	-	-	-	-	131.7	-	-	33.5
34970	Metal foil and leaf, n.s.k	21.6	-	-	-	-	21.6	-	-	-
34980	Fabricated pipe and fittings	1,698.1	(D)	38.4	-	.1	-	1,584.4	(D)	51.3
3499-	Fabricated metal products, n.e.c	3,390.3	-	(D)	(D)	(D)	-	21.2	2,821.1	529.1
34991	Safes and vaults	181.6	-	-	-	-	-	-	181.1	.5
34992	Collapsible tubes	106.5	-	-	-	-	-	-	(D)	(D)
34993	Flat metal strapping	272.6	-	-	-	(D)	-	-	(D)	(D)
34994	Other fabricated metal products, n.e.c	2,300.0	-	(D)	(D)	(D)	-	20.3	1,771.1	492.2
34990	Fabricated metal products, n.e.c., n.s.k	529.7	-	1.2	.7	.5	-	.9	505.0	21.5
	Other shipments by 4-digit product group:									
2499-	Wood products, n.e.c	(X)	-	-	-	(D)	.3	-	4.6	(X)
2514-	Metal household furniture	(X)	-	-	(D)	-	-	(D)	(D)	(X)
2522-	Metal office furniture	(X)	-	-	-	-	-	-	(D)	(X)
2542-	Metal partitions and fixtures	(X)	-	-	-	1.4	-	(D)	(D)	(X)
2641-	Coated and glazed paper	(X)	-	-	-	-	24.0	-	-	(X)
2643-	Bags, except textile bags	(X)	-	-	-	-	11.8	-	-	(X)
2649-	Converted paper products, n.e.c	(X)	-	-	-	-	(D)	-	-	(X)
2651-	Folding paperboard boxes	(X)	-	-	-	-	(D)	-	-	(X)
2754-	Commercial printing, gravure	(X)	-	-	-	-	34.8	-	-	(X)
2821-	Plastics materials and resins	(X)	-	-	-	(D)	-	-	-	(X)
2899-	Chemical preparations, n.e.c	(X)	-	-	-	-	-	-	(D)	(X)
3041-	Rubber and plastics hose and belting	(X)	-	(D)	-	-	-	(D)	2.0	(X)
3069-	Fabricated rubber products, n.e.c	(X)	-	(D)	-	(D)	-	-	(D)	(X)
3079-	Miscellaneous plastics products	(X)	-	(D)	-	(D)	8.0	(D)	(D)	(X)
3231-	Products of purchased glass	(X)	-	-	-	-	-	-	(D)	(X)
3264-	Porcelain electrical supplies	(X)	-	-	-	-	-	-	(D)	(X)
3293-	Gaskets, packing, and sealing devices	(X)	(D)	-	-	-	-	(D)	-	(X)
3315-	Steel wire and related products	(X)	-	-	.2	(D)	-	-	(D)	(X)
3317-	Steel pipe and tubes	(X)	-	(D)	-	-	-	(D)	(D)	(X)
3321-	Gray iron castings	(X)	-	(D)	-	-	-	(D)	(D)	(X)
3322-	Malleable iron castings	(X)	-	(D)	-	-	-	-	-	(X)
3353-	Aluminum sheet, plate, and foil	(X)	-	-	-	-	(D)	-	-	(X)
3356-	Nonferrous rolling and drawing, n.e.c	(X)	-	-	-	-	-	-	(D)	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	-	-	(D)	-	-	-	(X)
3362-	Brass, bronze, and copper castings	(X)	-	(D)	-	-	-	.7	(D)	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** – Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Steel springs, except wire (SIC 3493)	Valves and pipe fittings (SIC 3494)	Wire springs (SIC 3495)	Miscellaneous fabricated wire products (SIC 3496)	Metal foil and leaf (SIC 3497)	Fabricated pipe and fittings (SIC 3498)	Fabricated metal products, n.e.c. (SIC 3499)	Other industries
	Other shipments by 4-digit product group--Con.									
3399-	Primary metal products, n.e.c.	(X)	-	-	-	(D)	-	-	(D)	(X)
3423-	Hand and edge tools, n.e.c.	(X)	-	(D)	-	(D)	-	.5	14.8	(X)
3429-	Hardware, n.e.c.	(X)	-	10.9	(D)	(D)	-	(D)	1.9	(X)
3431-	Metal plumbing fixtures	(X)	-	-	-	-	-	-	-	(X)
3432-	Plumbing fittings and brass goods	(X)	-	(D)	-	-	-	-	(D)	(X)
3433-	Heating equipment, except electric	(X)	-	(D)	-	-	-	-	-	(X)
3441-	Fabricated structural metal	(X)	-	.4	-	(D)	.1	(D)	11.2	(X)
3443-	Fabricated plate work (boiler shops)	(X)	-	(D)	-	(D)	.1	(D)	4.2	(X)
3444-	Sheet metal work	(X)	-	(D)	-	(D)	-	(Z)	4.7	(X)
3451-	Screw machine products	(X)	(D)	(D)	(D)	(D)	-	-	(D)	(X)
3462-	Iron and steel forgings	(X)	-	(D)	-	-	-	(D)	-	(X)
3463-	Nonferrous forgings	(X)	-	(D)	-	-	-	-	(D)	(X)
3465-	Automotive stampings	(X)	(D)	-	(D)	(D)	-	4.0	(D)	(X)
3466-	Crowns and closures	(X)	-	-	-	-	(D)	-	-	(X)
3469-	Metal stampings, n.e.c.	(X)	(D)	-	(D)	(D)	-	-	10.1	(X)
3471-	Plating and polishing	(X)	-	(D)	-	(D)	-	(D)	.4	(X)
3479-	Metal coating and allied services	(X)	-	.1	-	-	-	1.0	(D)	(X)
3523-	Farm machinery and equipment	(X)	(D)	(D)	-	(D)	-	(Z)	(D)	(X)
3533-	Oil field machinery	(X)	-	(D)	-	-	-	-	(D)	(X)
3535-	Conveyors and conveying equipment	(X)	-	-	-	.2	-	-	(D)	(X)
3536-	Hoists, cranes, and monorails	(X)	-	(D)	-	(D)	-	-	(D)	(X)
3537-	Industrial trucks and tractors	(X)	-	.2	-	(D)	-	(D)	(D)	(X)
3541-	Machine tools, metal cutting types	(X)	-	(D)	-	-	-	-	(D)	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	(D)	-	(D)	.4	-	-	(D)	(X)
3545-	Machine tool accessories	(X)	-	4.0	-	(D)	-	-	.1	(X)
3546-	Power driven hand tools	(X)	-	-	-	(D)	-	-	-	(X)
3549-	Metalworking machinery, n.e.c.	(X)	-	(D)	-	-	-	-	(Z)	(X)
3551-	Food products machinery	(X)	-	-	-	(D)	-	(D)	(D)	(X)
3554-	Paper industries machinery	(X)	-	-	.1	-	-	-	-	(X)
3559-	Special industry machinery, n.e.c.	(X)	-	(D)	-	(D)	-	-	(D)	(X)
3561-	Pumps and pumping equipment	(X)	-	(D)	-	-	-	(D)	(D)	(X)
3562-	Ball and roller bearings	(X)	-	(D)	-	-	-	-	(D)	(X)
3563-	Air and gas compressors	(X)	-	(D)	-	-	-	-	-	(X)
3566-	Speed changers, drives, and gears	(X)	-	(D)	-	-	-	-	-	(X)
3569-	General industrial machinery, n.e.c.	(X)	-	(D)	-	(D)	-	(D)	7.2	(X)
3579- 3572-	Office machines, n.e.c. and typewriters	(X)	-	-	-	(D)	-	-	-	(X)
3585-	Refrigeration and heating equipment	(X)	-	11.6	-	(D)	-	-	(D)	(X)
3589-	Service industry machinery, n.e.c.	(X)	-	-	-	-	-	-	(D)	(X)
3599-	Machinery, except electrical, n.e.c.	(X)	-	18.7	.2	(D)	-	.5	(D)	(X)
3612-	Transformers	(X)	-	(D)	-	-	-	-	(D)	(X)
3621-	Motors and generators	(X)	-	(D)	-	-	-	-	(D)	(X)
3622-	Industrial controls	(X)	-	20.9	-	-	-	-	3.4	(X)
3623-	Welding apparatus, electric	(X)	-	-	-	-	-	-	-	(X)
3633-	Household laundry equipment	(X)	-	(D)	-	-	-	-	-	(X)
3634-	Electric housewares and fans	(X)	-	-	-	(D)	-	(Z)	.1	(X)
3644-	Noncurrent-carrying wiring devices	(X)	-	(D)	-	-	-	-	(D)	(X)
3647-	Vehicular lighting equipment	(X)	-	2.2	-	-	-	-	-	(X)
3648-	Lighting equipment, n.e.c.	(X)	-	(D)	-	-	-	-	(D)	(X)
3662-	Radio and TV communication equipment	(X)	-	-	-	-	-	4.5	(D)	(X)
3675-	Electronic capacitors	(X)	-	-	-	-	-	(Z)	-	(X)
3679-	Electronic components, n.e.c.	(X)	-	-	1.7	-	-	-	1.8	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	14.4	-	-	-	-	(D)	(X)
3724-	Aircraft engines and engine parts	(X)	-	(D)	-	-	-	-	(D)	(X)
3728-	Aircraft equipment, n.e.c.	(X)	-	(D)	-	-	-	-	-	(X)
3732-	Boat building and repairing	(X)	-	-	-	-	-	-	-	(X)
3743-	Railroad equipment	(X)	-	(D)	-	-	-	-	2.9	(X)
3822-	Environmental controls	(X)	-	15.5	-	-	-	-	-	(X)
3823-	Process control instruments	(X)	-	77.3	-	-	-	1.4	.3	(X)
3824-	Fluid meters and counting devices	(X)	-	(D)	-	-	-	-	-	(X)
3829-	Measuring and controlling devices, n.e.c.	(X)	(D)	(D)	-	(D)	-	-	.4	(X)
3841-	Surgical and medical instruments	(X)	-	3.0	(D)	(D)	-	-	(D)	(X)
3949-	Sporting and athletic goods, n.e.c.	(X)	-	-	-	(D)	-	-	(Z)	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	(D)	6.4	2.2	8.2	(D)	18.0	30.8	(X)
99980 13	Sales of scrap and refuse	(X)	.9	17.9	1.0	.7	4.7	1.6	5.7	(X)
99980 61	Receipts for repair work	(X)	-	17.8	-	-	-	2.7	68.4	(X)
99980 98	Other miscellaneous receipts, including receipts for repair work, etc	(X)	(D)	21.0	1.5	4.3	(D)	8.5	10.7	(X)
99989 00	Resales	(X)	6.9	263.4	17.8	50.0	21.5	158.5	154.4	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3493-	3711 Motor vehicles and car bodies	(D)
	3714 Motor vehicle parts and accessories	(D)
3494-	3312 Blast furnaces and steel mills	(D)
	3315 Steel wire and related products	(D)
	3321 Gray iron foundries	(D)
	3325 Steel foundries, n.e.c	(D)
	3433 Heating equipment, except electric	(D)
	3443 Fabricated plate work (boiler shops)	(D)
	3462 Iron and steel forgings	(D)
	3511 Turbines and turbine generator sets	(D)
	3533 Oil field machinery	(D)
	3561 Pumps and pumping equipment	139.2
	3569 General industrial machinery, n.e.c	(D)
	3589 Service industry machinery, n.e.c	(D)
	3599 Machinery, except electrical, n.e.c	(D)
	3714 Motor vehicle parts and accessories	(D)
	3724 Aircraft engines and engine parts	(D)
	3731 Ship building and repairing	(D)
	3769 Space vehicle equipment, n.e.c	(D)
	3822 Environmental controls	13.8
	3823 Process control instruments	(D)
	3824 Fluid meters and counting devices	(D)
3495-	3465 Automotive stampings	(D)
	3469 Metal stampings, n.e.c	(D)
3496-	3079 Miscellaneous plastics products	(D)
	3444 Sheet metal work	(D)
	3449 Miscellaneous metal work	(D)
	3452 Bolts, nuts, rivets, and washers	(D)
	3469 Metal stampings, n.e.c	(D)
	3532 Mining machinery	(D)
	3579 Office machines, n.e.c. and typewriters	(D)
	3623 Welding apparatus, electric	(D)
	3644 Noncurrent-carrying wiring devices	(D)
	3714 Motor vehicle parts and accessories	(D)
	Other industries with over $5 million shipments of primary products--Con.	
3497-	2641 Paper coating and glazing	104.2
	2643 Bags, except textile bags	7.0
	2649 Converted paper products, n.e.c	15.4
	2754 Commercial printing, gravure	24.1
	3353 Aluminum sheet, plate, and foil	(D)
3498-	3432 Plumbing fittings and brass goods	(D)
	3443 Fabricated plate work (boiler shops)	(D)
	3561 Pumps and pumping equipment	(D)
3499-	2499 Wood products, n.e.c	(D)
	2542 Metal partitions and fixtures	(D)
	2819 Industrial inorganic chemicals, n.e.c	(D)
	3079 Miscellaneous plastics products	(D)
	3312 Blast furnaces and steel mills	(D)
	3325 Steel foundries, n.e.c	(D)
	3351 Copper rolling and drawing	(D)
	3353 Aluminum sheet, plate, and foil	(D)
	3354 Aluminum extruded products	(D)
	3423 Hand and edge tools, n.e.c	(D)
	3425 Hand saws and saw blades	(D)
	3429 Hardware, n.e.c	(D)
	3441 Fabricated structural metal	(D)
	3443 Fabricated plate work (boiler shops)	(D)
	3444 Sheet metal work	(D)
	3446 Architectural metal work	(D)
	3469 Metal stampings, n.e.c	(D)
	3533 Oil field machinery	(D)
	3541 Machine tools, metal cutting types	(D)
	3544 Special dies, tools, jigs, and fixtures	19.8
	3545 Machine tool accessories	11.7
	3568 Power transmission equipment, n.e.c	(D)
	3569 General industrial machinery, n.e.c	23.0
	3714 Motor vehicle parts and accessories	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)
	STEEL SPRINGS, EXCEPT WIRE						
3493- --	Total	.....	(NA)	(X)	571.0	(X)	361.8
34931 --	Hot formed springs	.....	(NA)	(X)	454.2	(X)	279.1
	Hot formed, helical springs, hot wound:						
	Automobile coil springs:						
34931 04	Shipments for domestic replacement, including shipments to U.S. motor vehicle manufacturers for resale	1,000 s. tons.	7	**32.4	[3]34.1	[3]24.3	[3]15.4
34931 06	Shipments to U.S. motor vehicle manufacturers or their suppliers for use in original equipment		8	(S)	135.6	162.0	85.3
34931 08	Shipments for export, including transfers to other divisions for export		2	([3])	([3])	([3])	([3])
34931 16	Locomotive and railroad car and other helical springs, hot wound		6	55.2	47.2	41.7	18.9
	Hot formed leaf springs:						
	Automotive (auto, truck, bus, trailer, etc.):						
34931 51	Shipments for domestic replacement, including shipments to U.S. motor vehicle manufacturers for resale		15	(S)	42.4	58.1	31.0
	Shipments to U.S. motor vehicle manufacturers or their suppliers for use in original equipment:						
34931 56	Auto		5	191.8	157.8	268.3	110.7
34931 58	Truck, bus, trailer, etc		10				
34931 57	Shipments for export, including transfers to other divisions for export		4	([4])	([4])	17.6	6.1
34931 63	Leaf springs for tractors, farm equipment, locomotive and railroad cars, and other heavy equipment		6	(S)	10.9	13.8	5.9
34931 98	Other hot formed steel springs (including torsion bar springs)		11	[4]16.9	[4]26.0	(X)	5.8
34931 00	Hot formed springs, n.s.k.		(NA)	(X)	.2	(X)	-
34932 --	Cold formed springs:						
34932 71	Cold formed flat springs made of sheet and strip	1,000 s. tons.	36	(S)	94.3	25.2	56.9
34930 00	Steel springs, except wire, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	3.8	(X)	23.0
34930 02	Steel springs, except wire, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	18.7	(X)	2.3
	VALVES AND PIPE FITTINGS						
3494- --	Total	.....	(NA)	(X)	5,403.0	(X)	2,891.6
34947 --	Automatic regulating and control valves:						
34947 00	Automatic regulating and control valves--power operated valves designed for modulating (throttling) service, excluding power-operated on-off valves:						
	As reported in census of manufactures	.....	91	(X)	696.1	(X)	407.8
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	[5]703.3	(X)	408.3
	Engineered specification valves, designed to perform a precise degree of continuous modulation of controlled variables as the final element of a sophisticated instrument loop (commonly referred to as control valves and including certain globe, butterfly, ball, and similar types):						
34947 05	Pneumatic actuated	.....	(NA)	1,858.4	267.0	(NA)	127.0
34947 10	Electric actuated	.....	(NA)	1,457.9	57.1	(NA)	27.0
34947 15	Electrohydraulic actuated	.....	(NA)	136.6	16.4	(NA)	10.2
34947 19	Other	.....	(NA)	4,301.6	63.3	(NA)	79.9
	Regulator valves equipped with self-generating power actuators acting in response and in proportion to a change in value of the controlled variable, such as temperature, pressure, flow level, etc.:						
34947 25	Remote-sensing direct actuated temperature regulators	.....	(NA)	601.0	22.1	(NA)	14.9
34947 30	Self-contained direct actuated pressure regulators (except instrument type and safety relief valves)	.....	(NA)	3.361.4	98.9	(NA)	48.2
34947 35	Pilot (internal and external) actuated pressure regulators	.....	(NA)	194.1	27.8	(NA)	13.3
34947 41	Self-contained direct acting precision and instrument type pneumatic pressure regulators	.....	(NA)	1,326.8	18.4	(NA)	14.4
34947 45	Flow regulators for gas, vapors, or liquids	.....	(NA)	14,314.4	84.1	(NA)	54.5
34947 48	Other regulator valves	.....	(NA)	3,044.0	48.2	(NA)	18.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	VALVES AND PIPE FITTINGS--Con.						
34948 --	Solenoid valves:						
34948 00	Solenoid valves of the type actuated by the movement of a plunger or armature due to the magnetic field created by electrically energizing a solenoid coil, excluding torque motor rotary type actuated valves, servovalves, and fluid power hydraulic and pneumatic solenoid valves:						
	As reported in census of manufactures	.....	27	(X)	114.8	(X)	105.5
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	[5]137.9	(X)	129.5
	Solenoid valves of the type actuated by the movement of a plunger or armature due to the magnetic field created by electrically energizing a solenoid coil:						
34948 55	Two-way	.....	(NA)	9,125.1	103.8	(NA)	69.7
34948 57	Three-way	.....	(NA)	883.7	17.4	(NA)	10.5
34948 75	Other solenoid valves	.....	(NA)	9,073.4	16.7	(NA)	49.3
34942 --	Power transfer valves, pneumatic and hydraulic, (including metal valves for control of pneumatic and hydraulic power transfer systems and operators), excluding aircraft	.....	(NA)	(X)	535.3	(X)	306.8
	Hydraulic valves, all pressure:						
	Directional control (two-three-four way):						
34942 21	Manual	Thousands	28	*1,888.1	85.2	[6]1,685.2	[6]84.0
34942 23	Solenoid		19	*1,110.8	55.1	(NA)	(NA)
34942 25	Other, including mechanical		18	(S)	24.3	([6])	([6])
34942 33	Pressure control		27	*1,374.8	45.0	1,043.1	33.6
34942 35	Volume flow control		21	*4,888.9	64.4	(NA)	27.1
34942 37	Servovalves		3	(S)	45.1	248.0	54.1
34942 41	Combination		10				
34942 48	Other, including logic		11	2,140.8	31.9	(NA)	([7])
	Pneumatic valves, all pressures:						
	Directional control:						
34942 51	Manual		16	**669.4	14.5	[8]1,777.8	[8]33.8
34942 53	Solenoid		23	**1,455.7	64.2	(NA)	(NA)
34942 55	Other, including mechanical		10	(S)	9.1	([8])	([8])
34942 63	Pressure, including filter-lubricator-regulator control		13	4,342.1	45.1	(X)	25.0
34942 65	Volume flow control		13	*1,487.7	14.5	510.1	3.7
34942 69	Other, including logic and combination	Thousands	11	(S)	23.9	(NA)	[7]28.2
34942 00	Power transfer valves, pneumatic and hydraulic, n.s.k	.....	(NA)	(X)	13.0	(X)	17.3
34943 --	Other metal valves for piping systems and equipment, except plumbing and heating valves	.....	(NA)	(X)	2,113.4	(X)	1,036.9
34943 06	Nuclear valves (N-stamp only)	Thousands	26	(S)	140.7	(X)	(NA)
	Gates, globes, angles, straight-way (Y-type) checks, stop and check, cross, 3- and 4-way, etc., including manual and power-operated on-off valves; excluding automatic valves:						
	Iron body, including ductile or nodular, all pressures:						
34943 13	Water works or municipal valves (IBBM, AWWA, UL)	1,000 s. tons	14	(S)	104.2	(NA)	65.3
34943 15	Fire hydrants		6	(S)	43.4	(NA)	33.1
34943 17	Iron valves (excluding IBBM, AWWA, UL)		26	(S)	98.8	(NA)	78.7
	Steel, all pressures:						
34943 20	Cast carbon steel		28	*35.9	188.3	(NA)	157.5
34943 22	Forged carbon steel		13	12.9	87.3		
34943 23	Cast and forged alloy steel (all types, including stainless)		38	(S)	250.4	(NA)	83.5
34943 25	Brass and bronze (125 lb w.s.p. and over)		31	**23.4	182.3	(NA)	128.6
34943 37	Cocks and stops, all metals, pressures, and types		18	(S)	52.7	3.2	12.7
34943 39	Diaphragm and pinch valves, including operators, all metals, pressures and types, excluding automatic valves		11	(S)	37.7	6.8	20.0
	Pop safety valves and relief valves (over 15 lb w.s.p.):						
34943 52	Iron and steel		20	(S)	99.8	(X)	35.8
34943 55	Brass and bronze	1,000 s. tons	13	(S)	15.9	1.8	11.9
34943 57	Compressed gas cylinder valves	Thousands	8	(S)	27.1	(X)	12.1
34943 61	Steam traps (over 15 lb w.s.p.)	Millions	10	(S)	48.8	.5	9.6
	Ball valves, all metals, pressures, and types, including manual and power-operated on-off valves, but excluding automatic valves:						
34943 62	Iron, including ductile	1,000 s. tons	8	(S)	([9])	(NA)	93.7
34943 63	Brass and bronze		21	*7.5	43.4		
34943 64	Steel (cast and fabricated)		24	(S)	[9]164.0		
34943 65	Other alloys		10	**4.6	34.3		
	Butterfly valves, all metals, pressures, and types, including manual and power-operated on-off valves, but excluding automatic valves:						
34943 67	Iron including ductile		21	(S)	84.1	(NA)	97.5
34943 68	Brass and bronze		3	(S)	4.0		
34943 69	Steel (cast and fabricated)		21	(S)	96.4		
34943 70	Other alloys	1,000 s. tons	6	(S)	9.7		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	VALVES AND PIPE FITTINGS--Con.						
	Other metal valves for piping systems and equipment, except plumbing and heating valves--Con.						
	Gates, globes, angles, straight-way (Y-type) checks, stop and check, cross, 3- and 4-way, etc., iincluding manual and power-operated on-off valves; excluding automatic valves--Con.						
	Plug valves, all metals, pressures, and types (such as lubricated, nonlubricated, cylindrical eccentric sleeve lined) except cocks and stops, including manual and power-operated on-off valves, but excluding automatic valves:						
34943 72	Iron, including ductile	1,000 s. tons.	11	(S)	33.3		
34943 73	Carbon steel		11	*13.2	67.2	(NA)	81.2
34943 74	Alloy steel		7	(S)	33.7		
34943 75	Other alloys	1,000 s. tons.	5				
34943 98	Other metal valves and specialties	.....	41	(S)	135.0	(NA)	96.8
34943 00	Other metal valves for piping systems and equipment, n.s.k.	.....	(NA)	(X)	30.9	(X)	18.9
39344 --	Plumbing and heating valves and specialties, excluding plumbers' brass goods	.....	(NA)	(X)	206.6	(X)	139.3
34944 11	Gates, globes, angles, straightway (Y-type) checks, stop and check, cross, 3- and 4-way drain, etc., brass and bronze (under 125 lb w.s.p.)	1,000 s. tons.	25	(S)	83.4	21.1	51.3
34944 19	Other metal plumbing and heating valves and specialties, including steam traps, pop safety valves, and relief valves (15 lb w.s.p. and under)	1,000 s. tons.	22	(S)	117.1	18.6	75.1
34944 00	Plumbing and heating valves and specialties, n.s.k.	.....	(NA)	(X)	6.1	(X)	12.9
34945 --	Metal fittings, flanges, and unions for piping systems	.....	(NA)	(X)	1,018.8	(X)	602.2
34945 11	Gray iron fittings, flanges, and unions (not for cast iron pipe)	1,000 s. tons.	10	*25.8	28.0	50.2	21.8
	Malleable iron:						
34945 13	Fittings and flanges, including couplings, reducers, caps, etc		20	*81.1	124.5	80.3	69.6
34945 15	Unions and union fittings	1,000 s. tons.	10	19.4	39.8	14.7	22.6
	Copper, brass, or bronze, including solder and threaded types:						
34945 18	Cast bronze or bronze fittings, flanges, and unions	Million lb.	14	28.1	75.4	28.4	35.1
34945 19	Wrought copper and wrought copper alloy fittings, flanges, and unions	Million lb.	10	64.0	127.6	52.3	76.1
34945 21	Cast carbon and alloy steel fittings, flanges, and unions	1,000 s. tons.	10	(S)	18.2	2.2	10.4
	Forged carbon and alloy steel:						
34945 22	Fittings, unions and flanges, socket-weld type		28	**22.5	71.8	96.0	121.5
34945 24	Fittings, unions and flanges, threaded-type		28	*20.3	91.4		
34945 26	Flanges, butt-welding type		20	**83.6	80.0	64.6	75.5
34945 27	Fittings, butt-welding type	1,000 s. tons.	16	**53.6	129.4		
34945 31	Pipe hangers and supports, excluding metal framing	.....	11	(NA)	100.4	(X)	46.4
34945 85	Pipe couplings	1,000 s. tons.	4				
34945 98	All other metal fittings and unions for piping systems, including metal framing and fittings for mechanical and electrical supports	1,000 s. tons.	30	*60.0	123.1	(X)	88.0
34945 00	Metal fittings, flanges, and unions for piping systems, n.s.k.	.....	(NA)	(X)	9.2	(X)	35.2
34946 --	Fittings and assemblies for tubing and hose, excluding plumbers' brass goods	.....	(NA)	(X)	482.3	(X)	193.3
	Fittings for metal and plastic tubing used in fluid and power transfer systems for tubing normally measured by outside diameter dimension:						
	Flared type:					11.0	15.5
34946 11	Brass and bronze (SAE 45° and 37°)	Million lb.	6				
34946 13	Carbon steel (JIC 37°)		2	(S)	35.7	15.5	24.0
34946 15	Other, including alloy steel		3				
	Flareless types, including compression and bite types:						
34946 21	Brass and bronze		11	(S)	42.0	7.6	20.6
34946 23	Carbon steel		8	(S)	11.9	4.3	6.0
34946 24	Stainless steel		13	(S)	42.2	9.7	22.0
34946 28	Other, including alloy steel	Million lb.	7	(S)	11.1		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	VALVES AND PIPE FITTINGS--Con.						
	Fittings and assemblies for tubing and hose, excluding plumbers' brass goods--Con.						
	Fittings for metal and plastic tubing used in fluid and power transfer systems for tubing normally measured by outside diameter dimension--Con.						
34946 38	Other fittings, including plastic	Million lb.	11	(S)	26.6		
	Hose end fittings and hose assemblies for hydraulic, pneumatic, and fluid transfer systems, including reinforced rubber and plastics hose types, except automotive, aircraft, household, and garden hose fittings and assemblies:						
	Hose connectors:						
34946 43	Hydraulic and pneumatic reusable end fittings	Millions	7	(S)	68.9		
34946 45	Hydraulic and pneumatic permanent end fittings (crimped and swaged)					(NA)	89.0
34946 47	Hydraulic quick connect and disconnect couplings						
34946 48	Pneumatic quick connect and disconnect couplings		25	(S)	89.0		
34946 49	All other, including steel adaptor connectors and rotating fittings						
	Hydraulic and pneumatic hose assemblies:						
34946 51	Permanent end fittings		12	(S)	140.2		
34946 53	Reusable end fittings	Millions	13				
34946 00	Fittings and assemblies for tubing and hose, n.s.k.		(NA)	(X)	14.7	(X)	16.2
34940 00	Valves and pipe fittings, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	134.0	(X)	80.7
34940 02	Valves and pipe fittings, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	101.7	(X)	19.1
	WIRE SPRINGS						
3495- --	Total		(NA)	(X)	933.0	(X)	566.1
34952 --	Precision mechanical springs		(NA)	(X)	392.0	(X)	250.5
	Compression type:						
34952 12	Shipments to original equipment manufacturers	1,000 s. tons.	107	(S)	206.0	79.0	115.3
34952 14	Other shipments		24	(S)	45.7	12.4	23.6
34952 15	Extension type		78	(S)	75.7	40.8	55.2
34952 17	Torsion type	1,000 s. tons.	65	**31.0	60.1	28.2	44.6
34952 00	Precision mechanical springs, n.s.k.		(NA)	(X)	4.5	(X)	11.8
34953 --	Other wire springs		(NA)	(X)	500.1	(X)	312.0
	Upholstery and furniture springs (unassembled):						
34953 11	Seat and back springs for motor vehicles	1,000 s. tons.	8	*165.8	193.6	131.7	109.6
34953 13	Springs for mattresses and bedsprings, excluding complete bedsprings		13	(S)	54.8	20.8	12.7
34953 17	Spring units for boxsprings, innerspring mattresses, and dual-purpose sleep furniture		21	(S)	122.2	223.2	105.0
34953 18	Spring units for upholstered furniture		9	(S)	13.1	(X)	12.2
34953 19	Other upholstery and furniture springs (unassembled)		10	**23.9	24.7	(X)	23.3
34953 21	Valve springs		8	(S)	15.5	6.3	11.2
34953 98	Other wire springs	1,000 s. tons.	46	(S)	74.4	(X)	31.4
34953 00	Other wire springs, n.s.k.		(NA)	(X)	1.8	(X)	6.6
34950 00	Wire springs, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	16.4	(X)	3.6
34950 02	Wire springs, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	24.5	(X)	-
33151 --	MISCELLANEOUS FABRICATED WIRE PRODUCTS		(NA)	(X)	3,336.7	(X)	[10]2,111.0
33152 --							
33156 --							
33157 --							
33159 --							
33575 --							
3496- --							
33151 --	Miscellaneous fabricated wire products, produced by wire drawers		(NA)	(X)	1,896.7	(X)	1,168.6
33152 --							
33156 --							
33157 --							
33159 --							
33575 --							
3496- --	Miscellaneous fabricated wire products, not produced by wire drawers		(NA)	(X)	1,440.0	(X)	942.4
33151 --	Noninsulated ferrous wire rope, cable, and strand		(NA)	(X)	610.5	(X)	366.6
34961 --							
33151 --	Made in industries 3312 (blast furnaces and steel mills) and 3315 (steel wire and related products)		(NA)	(X)	439.1	(X)	270.2
34961 --	Made in industry 3496 (miscellaneous fabricated wire products) and other industries		(NA)	(X)	171.4	(X)	96.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
33151 -- 33152 -- 33156 -- 33157 -- 33159 -- 33575 -- 3496- --	MISCELLANEOUS FABRICATED WIRE PRODUCTS--Con.						
33151 -- 34961 -- 33151 --	Noninsulated ferrous wire rope, cable, and strand--Con.						
33151 11 34961 11	Steel wire rope and cable	1,000 s. tons	(NA)	(S)	394.6	398.2	243.2
33151 11	Made in industries 3312 and 3315		29	(S)	307.3	333.0	188.2
34961 11	Made in industry 3496 and other industries		38	(S)	87.3	65.2	55.0
33151 21 34961 21	Composite strand, rope, and cable, including wire strands of different metals, except ACSR		(NA)	(S)	60.4		
33151 21	Made in industries 3312 and 3315		7	*33.3	36.9	4.0	7.1
34961 21	Made in industry 3496 and other industries		8	(S)	23.5		
33151 33 34961 35	Steel wire strand for prestressed concrete		(NA)	(S)	34.5	70.6	27.2
33151 21	Made in industries 3312 and 3315		5	49.9	34.5	70.6	27.2
34961 21	Made in industry 3496 and other industries		4	(S)			
33151 35 34961 33	Steel wire strand, except wire strand for prestressed concrete, including guard rail cable		(NA)	34.3	55.1	175.0	55.4
33151 35	Made in industries 3312 and 3315		11	34.3	55.1	142.1	48.3
34961 33	Made in industry 3496 and other industries		1			32.9	7.1
33151 41 34961 41	Wire forms		(NA)	(S)	56.4	(X)	28.1
33151 41	Made in industries 3312 and 3315		10	*22.3	15.8	(X)	3.7
34961 41	Made in industry 3496 and other industries	1,000 s. tons	47	(S)	40.6	(X)	24.4
33151 00 34961 00	Noninsulated ferrous wire rope, cable, and strand, n.s.k.		(NA)	(X)	9.5	(X)	5.6
33157 -- 34964 --	Ferrous wire cloth and other ferrous woven wire products		(NA)	(X)	222.1	(X)	128.9
33157 --	Made in industries 3312 (blast furnaces and steel mills) and 3315 (steel wire and related products)		(NA)	(X)	84.4	(X)	53.6
34964 --	Made in industry 3496 (miscellaneous fabricated wire products) and other industries		(NA)	(X)	137.7	(X)	75.3
33157 21 34964 11	Insect wire screening, steel, including stainless steel	Mil. sq. ft.	(NA)	(S)	6.7	83.8	3.8
33157 31 34964 31	Hardware cloth	1,000 s. tons	(NA)	8.7	11.4	10.0	11.4
33157 61 34964 61	Industrial wire cloth, steel	Mil. sq. ft.	(NA)	*129.4	65.4	(X)	41.1
33157 61	Made in industries 3312 and 3315		5	*104.3	16.9	(X)	9.5
34964 61	Made in industry 3496 and other industries		25	**25.3	48.5	(X)	31.6
33157 71 34964 71	Woven wire netting (poultry, fur farm, stucco, etc.)		(NA)	(S)	50.1	(X)	25.7
33157 71	Made in industries 3312 and 3315		8	(S)	50.1	(X)	25.7
34964 71	Made in industry 3496 and other industries		-				
33157 81 34964 81	Stainless steel paper machine wire cloth (Fourdrinier and cylinder)		(NA)	(S)	2.6	(X)	5.4
33157 81	Made in industries 3312 and 3315		-	-	-	-	-
34964 81	Made in industry 3496 and other industries		3	(S)	2.6	(X)	5.4
33157 98 34964 98	Other woven cloth and woven wire products, including diamond cloth, spiral cloth, drying belts, etc.	Mil. sq. ft.	(NA)	(S)	84.0	(X)	37.6
33157 00 34964 00	Ferrous wire cloth and other woven ferrous wire products, n.s.k.		(NA)	(X)	1.9	(X)	3.9
33575 -- 34965 --	Nonferrous wire cloth and other woven nonferrous wire products		(NA)	(X)	160.6	(X)	83.7
33575 --	Made in industry 3357 (nonferrous wire drawing and insulating)		(NA)	(X)	94.5	(X)	33.9
34965 --	Made in industry 3496 (miscellaneous fabricated wire products) and other industries		(NA)	(X)	66.1	(X)	49.8
33575 25 34965 17	Insect wire screening	Mil. sq. ft.	(NA)	**549.2	41.7	(NA)	27.6
	Paper machine wire cloth (Fourdrinier and cylinder):						
33575 53 34965 53	Copper		(NA)	(S)	(D)	17.3	35.4
33575 53	Made in industry 3357		2	(D)	(D)	7.5	16.3
34965 53	Made in industry 3496 and other industries		5	(D)	(D)	9.8	19.1
33575 59 34965 59	All other		(NA)	(S)	19.5	1.9	5.9
33575 65 34965 65	Industrial wire cloth, nonferrous	Mil. sq. ft.	(NA)	**10.9	31.0	10.2	11.5
33575 00 34965 00	Nonferrous wire cloth and other woven nonferrous wire products, n.s.k.		-	-	-	(X)	3.3

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
33151 -- 33152 -- 33156 -- 33157 -- 33159 -- 33575 -- 3496- --	MISCELLANEOUS FABRICATED WIRE PRODUCTS--Con.						
33156 -- 34966 --	Fencing and fence gates	.....	(NA)	(X)	411.6	(X)	245.6
33156 --	Made in industries 3312 (blast furnaces and steel mills) and 3315 (steel wire and related products)	.....	(NA)	(X)	280.3	(X)	172.1
34966 --	Made in industry 3496 (miscellaneous fabricated wire products) and other industries	.....	(NA)	(X)	131.3	(X)	73.5
33156 13 34966 13	Chain link fencing, excluding posts, gates, and fittings	1,000 s. tons.	(NA)	(S)	170.9	173.3	65.1
33156 13	Made in industries 3312 and 3315		12	(S)	125.8	141.4	37.4
34966 13	Made in industry 3496 and other industries		20	(S)	45.1	31.9	27.7
33156 35 34966 35	Fence gates, posts, and fittings		(NA)	(S)	140.6	235.8	76.4
33156 21 34966 21	Wire fence, woven and welded		(NA)	(S)	78.0	368.9	100.0
33156 21	Made in industries 3312 and 3315		12	135.1	72.1	327.3	88.2
34966 21	Made in industry 3496 and other industries		7	(S)	5.9	41.6	11.8
33156 71 34966 71	Ornamental lawn fence		(NA)	(S)	9.1	4.0	2.3
33156 00 34966 00	Fencing and fence gates, n.s.k.	1,000 s. tons.	(NA)	(X)	13.0	(X)	1.8
33152 -- 34967 --	Steel nails and spikes	.....	(NA)	(X)	447.1	(X)	[11]248.5
33152 --	Made in industries 3312 (blast furnances and steel mills) and 3315 (steel wire and related products)	.....	(NA)	(X)	359.0	(X)	[11]248.5
34967 --	Made in industry 3469 (miscellaneous fabricated wire products) and other industries	.....	(NA)	(X)	88.0	(X)	
	Steel wire nails, spikes, and brads:						
33152 11 34967 11	Bright	1,000 s. tons.	(NA)	168.1	107.1	[11]226.8	[11]68.4
33152 13 34967 13	Galvanized		(NA)	74.3	52.1	[11]81.5	[11]29.0
33152 15 34967 15	Cement-coated		(NA)	76.8	43.5	[11]73.3	[11]20.0
33152 17 34967 17	Other		(NA)	25.8	25.5	[11]77.4	[11]40.9
33152 19 34967 19	Steel wire staples		(NA)	(S)	141.2	[11]87.9	[11]72.0
33152 21 34967 21	Steel tacks (wire and cut)		(NA)	3.2	6.0	[11]8.4	[11]9.4
33152 23 34967 23	Steel cut nails, spikes, and brads, including track spikes and horseshoe nails	1,000 s. tons.	(NA)	(S)	67.5	[11]19.8	[11]7.0
33152 00 34967 00	Steel wire nails, spikes, and brads	.....	(NA)	(X)	4.2	(X)	[11]1.8
33159 -- 34968 --	Other fabricated wire products	.....	(NA)	(X)	1,265.4	(X)	[11]847.5
33159 --	Made in industries 3312 (blast furnaces and steel mills) and 3315 (steel wire and related products)	.....	(NA)	(X)	639.5	(X)	390.0
34968 --	Made in industry 3496 (miscellaneous fabricated wire products) and other industries	.....	(NA)	(X)	625.9	(X)	[11]457.5
	Wire chain:						
33159 41 34968 41	Tire	1,000 s. tons.	(NA)	(S)	30.9	32.1	35.6
33159 41	Made in industries 3312 and 3315		5	30.8	27.9	32.1	35.6
34968 41	Made in industry 3496 and other industries		4	(S)	3.1		
33159 49 34968 49	Other		(NA)	(S)	158.3	78.2	69.0
33159 49	Made in industry 3312 and 3315		7	107.2	104.5	61.2	47.8
34968 49	Made in industry 3496 and other industries		18	(S)	53.8	17.0	21.2
33159 51 34968 51	Barbed and twisted steel wire		(NA)	(S)	52.0	141.2	37.9
33159 51	Made in industries 3312 and 3315		11	(S)	52.0	118.6	31.0
34968 51	Made in industry 3496 and other industries		3			22.6	6.9
33159 55 34968 55	Wire bale ties		(NA)	(S)	23.9	143.7	36.4
33159 55	Made in industries 3312 and 3315		10	41.9	19.4	130.2	30.6
34968 55	Made in industry 3496 and other industries	1,000 s. tons.	5	(S)	4.5	13.5	5.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
33151 -- 33152 -- 33156 -- 33157 -- 33159 -- 33575 -- 3496- --	MISCELLANEOUS FABRICATED WIRE PRODUCTS--Con.						
33159 -- 34968 --	Other fabricated wire products--Con.						
	Welded steel wire fabric:						
33159 61 34968 61	Concrete reinforcing mesh	1,000 s. tons.	(NA)	*741.9	250.7	633.9	130.4
33159 61	Made in industries 3312 and 3315		27	*718.8	241.8	539.4	109.3
34968 61	Made in industry 3496 and other industries		16	*23.1	8.9	94.5	21.1
33159 65 34968 65	Other welded steel wire fabric		(NA)	93.8	46.2	185.3	53.1
33159 65	Made in industries 3312 and 3315		8	91.3	39.2	176.7	47.0
34968 65	Made in industry 3496 and other industries	1,000 s. tons.	6	2.5	7.0	8.6	6.1
33159 71 34968 71	Wire garment hangers	Million lb.	(NA)	(S)	68.7	233.7	48.2
33159 71	Made in industries 3312 and 3315	Million lb.	6	(S)	48.2	176.5	32.4
34968 71	Made in industry 3496 and other industries	Million lb.	10	*72.7	20.5	57.2	15.8
33159 73 34968 73	Wire carts, including household, grocery and industrial		(NA)	(X)	72.5	(X)	36.3
33159 75 34968 75	Steel wire cages		(NA)	(X)	43.5	(X)	9.3
33159 77 34968 77	Paper clips		4	(X)	7.8	(X)	359.8
33159 98 34968 98	Other wire products, including baskets, guards, florists' designs, kitchenware, etc		(NA)	(X)	498.8		
33159 00 34968 00	Other fabricated wire products, n.s.k.		(NA)	(X)	12.1	(X)	31.5
34960 00	Miscellaneous fabricated wire products, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	184.5	(X)	131.1
34960 02	Miscellaneous fabricated wire products, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	34.9	(X)	59.1
	METAL FOIL AND LEAF						
3497- --	Total		(NA)	(X)	1,070.3	(X)	511.8
34971 --	Converted unmounted aluminum foil packaging products, plain, printed, or coated (not laminated to other materials)	Million lb. (metal content)	(NA)	354.0	386.7	273.3	197.3
34971 32	Household, institutional, and freezer foil		8	354.0	386.7	197.3	138.1
34971 33	Semirigid containers		7			63.4	45.3
34971 37	Other unmounted foil flexible packaging products, including gift wrap	Million lb. (metal content)	9			12.6	13.9
34972 --	Laminated aluminum foil rolls and sheets for flexible packaging uses		(NA)	(NA)	496.9	(X)	229.3
34972 10	Film/foil without paper	Million lb. (metal content)	20	*32.4	74.2	9.4	19.1
	Foil/paper:						
34972 20	Polyethylene coated, laminated, or both		35	**107.6	220.5	32.3	72.2
34972 30	Other foil/paper combinations		32	**69.6	177.1	76.4	99.6
34972 41	Gift wrap (laminated)		12	(S)	25.1	(X)	38.4
34973 --	Converted aluminum foil for nonpackaging applications and foil and leaf		(NA)	(NA)	165.1	32.6	67.7
34973 52	Unmounted or coated, plain or printed		12	**19.5	36.1	17.7	28.8
34973 54	Laminated to other materials		13	*34.0	46.4		
34973 58	Other foil, including composition (combination of two or more metals) and metal leaf, including aluminum leaf	Million lb. (metal content)	15	(S)	82.6	(X)	38.9
34970 00	Metal foil and leaf, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	8.6	(X)	16.8
34970 02	Metal foil and leaf, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	13.0	(X)	.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	FABRICATED PIPE AND FITTINGS						
3498- --	Total	.....	(NA)	(X)	1,698.1	(X)	670.5
	Fabricated pipe and fittings:			(S)			
34980 13	Iron and steel	1,000 s. tons.	251	(S)	1,328.8	(X)	433.2
34980 15	Aluminum and aluminum-base alloy	Million lb....	35	*26.6	31.2	(X)	23.8
34980 17	Copper and copper-base alloy	Million lb....	38	(S)	67.4	(X)	41.2
34980 19	All other nonferrous fabricated pipe and pipe fittings	.....	48	(S)	132.7	(X)	71.5
34980 00	Fabricated pipe and fittings, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	102.3	(X)	84.8
34980 02	Fabricated pipe and fittings, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	35.7	(X)	16.0
	FABRICATED METAL PRODUCTS, N.E.C.						
3499- --	Total	.....	(NA)	(X)	3,390.3	(X)	2,131.8
34991 --	Safes and vaults	.....	(NA)	(X)	181.6	(X)	146.2
	Safes and chests:						
34991 15	Fire-resistive	Thousands.....	11	360.1	29.7	138.2	14.8
34991 21	Buglary-resistive	↕	12	**23.9	23.2	47.8	13.4
34991 41	Safe deposit boxes	Thousands.....	10	1,329.1	38.6	917.8	31.2
34991 98	All other bank and security vaults and equipment, including bank security lockers, night depositories, security equipment for drive-in windows and similar equipment, and signaling and alarm equipment when sold together with bank equipment, and other interior equipment for safes and chests	.....	11	(X)	89.0	(X)	85.8
34991 00	Safes and vaults, n.s.k.	.....	(NA)	(X)	1.1	(X)	1.0
34992 --	Collapsible tubes	.....	(NA)	(X)	106.5	(X)	49.1
34992 11	Aluminum	Million gross..	14	**10.3	88.3	5.8	35.0
34992 12	Lead	↕	3	5.5	17.4	1.2	7.8
34992 19	Other, including tin, tin-coated, and tin-lead alloy	↕	4			(X)	6.3
34992 00	Collapsible tubes, n.s.k.	Million gross..	(NA)	(S)	.8		
34993 --	Flat metal strapping:						
34993 57	Flat metal strapping	1,000 s. tons..	29	412.5	272.6	482.1	167.8
34994 --	All other fabricated metal products, n.e.c.	.....	(NA)	(X)	2,300.0	(X)	1,390.5
34994 11	Metal ammunition boxes and chests	.....	2	(X)	(12)	(X)	8.6
	Metal ladders:						
34994 43	Step and platform types	Thousands.....	16	**1,669.5	49.0	1,687.9	26.9
34994 45	Extension, straight, trestle, and trestle-extension ladders	↕	14	1,037.6	34.1	(NA)	19.9
34994 47	Other, including ladder type step stools, excluding household and combination step and extension ladders	↕	13	(S)	15.2	(NA)	(13)
34994 54	Metal ironing boards	Thousands.....	2	(D)	(12)	(X)	6.1
34994 55	Permanent magnets, except ceramic permanent magnets	.....	16	(X)	103.8	(X)	72.0
34994 56	Fabricated assemblies of railroad frogs, switches, and crossings	1,000 s. tons..	9	*242.5	195.6	172.6	75.1
34994 58	Cast metal memorial tablets and grave markers	.....	4	(X)	6.1	(X)	11.4
34994 61	Steel boxes for packaging and shipping	.....	16	(X)	40.3		
34994 65	Stamped metal wheels for golf carts, lawn mowers, etc. (disc type)	.....	5	(X)	16.3	(X)	38.0
34994 71	Metal aerosol valves	.....	10	(X)	57.0	(X)	34.2
34994 75	Metal spools and reels	.....	9	(X)	24.5	(X)	10.9
34994 98	Other fabricated metal products, n.e.c.	.....	802	(NA)	12 1,543.5	(NA)	13 1,087.4
34994 00	Other fabricated metal products, n.s.k.	.....	(NA)	(X)	214.6	(X)	-
34990 00	Fabricated metal products, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	385.4	(X)	289.1
34990 02	Fabricated metal products, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	144.2	(X)	89.1

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

Footnotes continued on next page.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1977 and 1972, product code 34931 08 was included with product code 34931 04.

[4]For 1977, product code 34931 57 was included with product code 34931 98.

[5]Data for CIR MA-38B includes nuclear valves whereas the census of manufactures classifies all nuclear valves in product code 34943 06.

[6]For 1972, product code 34992 21 included product code 34942 25.

[7]For 1972, product code 34942 48 was included with product code 34942 69.

[8]For 1972, product code 34942 51 included product code 34942 55.

[9]For 1977, product code 34943 62 was included with product code 34943 64.

[10]Revised to include product class 33152, steel nails and spikes produced by wire drawers.

[11]Excludes product class 34967, steel nails and spikes produced by establishments not drawing wire, which for 1972 was included with product code 34968 98.

[12]For 1977, product codes 34994 11 and 34994 54 were included with product code 34994 98.

[13]For 1972, product code 34994 47 was included with product code 34994 98.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34931, HOT FORMED SPRINGS		
United States	454.2	279.1
Middle Atlantic Division:		
Pennsylvania	111.6	FF
East North Central Division:		
Indiana	84.7	FF
Michigan	142.3	62.7
West South Central Division:		
Texas	5.4	CC
Pacific Division:		
California	21.1	6.0
34932, COLD FORMED FLAT SPRINGS MADE OF SHEET AND STRIP STOCK		
United States	94.3	56.9
Middle Atlantic Division:		
Pennsylvania	17.3	CC
East North Central Division:		
Ohio	8.0	4.7
Illinois	16.4	7.5
Michigan	22.9	11.1
Pacific Division:		
California	4.7	BB
34942, PNEUMATIC AND HYDRAULIC VALVES FOR POWER TRANSFER		
United States	535.3	306.8
New England Division:		
Connecticut	5.7	AA
Middle Atlantic Division:		
New York	22.9	FF
Pennsylvania	16.4	CC
East North Central Division:		
Ohio	105.0	61.8
Illinois	27.5	14.2
Michigan	75.5	44.8
Wisconsin	29.8	12.3
West North Central Division:		
Minnesota	22.7	EE
South Atlantic Division:		
North Carolina	18.0	8.3
West South Central Division:		
Texas	3.7	(NA)
Pacific Division:		
California	68.6	FF
34943, OTHER METAL VALVES FOR PIPING SYSTEMS AND EQUIPMENT		
United States	2,113.4	1,036.9
New England Division:		
Massachusetts	167.0	62.5
Connecticut	54.0	FF
Middle Atlantic Division:		
New York	82.5	39.7
New Jersey	69.8	16.0
Pennsylvania	196.3	89.1
East North Central Division:		
Ohio	238.8	100.7
Indiana	30.2	19.5
Illinois	140.2	127.0
Michigan	40.0	16.6
West North Central Division:		
Iowa	60.4	FF
34943, OTHER METAL VALVES FOR PIPING SYSTEMS AND EQUIPMENT--Con.		
South Atlantic Division:		
North Carolina	36.1	EE
East South Central Division:		
Tennessee	80.6	60.6
West South Central Division:		
Arkansas	53.2	EE
Oklahoma	96.8	28.5
Texas	337.6	143.9
Pacific Division:		
California	132.9	DD
34944, PLUMBING AND HEATING VALVES AND SPECIALTIES		
United States	206.6	139.3
Middle Atlantic Division:		
New York	5.4	EE
East North Central Division:		
Indiana	22.9	11.6
Illinois	45.7	18.8
Pacific Division:		
California	6.6	CC
34945, METAL FITTINGS, FLANGES AND UNIONS AND PIPING SYSTEM		
United States	1,018.8	602.2
New England Division:		
Connecticut	14.3	6.4
Middle Atlantic Division:		
New York	46.4	23.5
New Jersey	22.8	20.0
Pennsylvania	187.6	140.0
East North Central Division:		
Ohio	103.7	30.5
Indiana	80.1	34.0
Illinois	74.3	54.4
Michigan	26.7	FF
East South Central Division:		
Kentucky	50.7	41.6
West South Central Division:		
Louisiana	18.1	(NA)
Texas	122.4	(NA)
Pacific Division:		
California	42.2	FF
34946, FITTINGS AND ASSEMBLIES FOR TUBING AND HOSE		
United States	482.3	193.3
Middle Atlantic Division:		
New Jersey	23.8	CC
East North Central Division:		
Ohio	190.1	55.6
Indiana	25.8	19.5
Illinois	66.1	48.6
Michigan	59.4	EE
Wisconsin	15.1	AA
West North Central Division:		
Minnesota	9.1	BB
West South Central Division:		
Texas	14.1	(NA)
Pacific Division:		
California	18.8	EE

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34947, AUTOMATIC REGULATING AND CONTROL VALVES		
United States	696.1	(NA)
Middle Atlantic Division:		
New York	17.1	(NA)
New Jersey	21.3	(NA)
Pennsylvania	80.0	(NA)
East North Central Division:		
Ohio	24.9	(NA)
Illinois	30.9	(NA)
Michigan	10.7	(NA)
East South Central Division:		
Oklahoma	11.1	(NA)
Pacific Division:		
California	81.8	(NA)
34952, PRECISION MECHANICAL SPRINGS		
United States	392.0	250.4
New England Division:		
Massachusetts	7.7	BB
Connecticut	38.3	29.4
Middle Atlantic Division:		
New York	13.3	9.7
New Jersey	3.0	1.6
Pennsylvania	27.3	17.7
East North Central Division:		
Ohio	32.9	20.8
Indiana	33.8	19.5
Illinois	85.3	59.4
Michigan	85.0	56.4
East South Central Division:		
Tennessee	2.3	(NA)
West South Central Division:		
Texas	8.9	BB
Pacific Division:		
California	26.9	EE
34953, OTHER WIRE SPRINGS		
United States	500.1	312.0
New England Division:		
Massachusetts	15.6	10.3
Connecticut	10.9	3.5
Middle Atlantic Division:		
New York	8.2	7.3
Pennsylvania	13.5	5.6
East North Central Division:		
Ohio	17.2	CC
Indiana	35.2	23.0
Illinois	29.5	31.8
Michigan	122.0	59.7
South Atlantic Division:		
North Carolina	26.4	FF
East South Central Division:		
Kentucky	95.1	FF
Mississippi	8.2	CC
West South Central Division:		
Texas	9.0	7.5
Pacific Division:		
California	34.0	23.1
34961, NONINSULATED FERROUS WIRE, ROPE, CABLE, AND STRAND		
United States	171.4	(NA)
New England Division:		
Connecticut	13.6	(NA)
Middle Atlantic Division:		
New York	2.6	(NA)
New Jersey	13.7	(NA)
Pennsylvania	19.1	(NA)
East North Central Division:		
Ohio	13.2	(NA)
Indiana	2.0	(NA)
Illinois	28.5	(NA)
Michigan	7.5	(NA)
Wisconsin	7.8	(NA)
West South Central Division:		
Texas	8.2	(NA)
Pacific Division:		
California	23.9	(NA)
34964, FERROUS WIRE CLOTH AND WOVEN WIRE PRODUCTS		
United States	137.7	(NA)
Middle Atlantic Division:		
New York	8.8	(NA)
Pennsylvania	11.9	(NA)
East North Central Division:		
Ohio	7.8	(NA)
Illinois	11.5	(NA)
Michigan	2.5	(NA)
Pacific Division:		
California	15.2	(NA)
34965, NONFERROUS WIRE CLOTH AND WOVEN WIRE PRODUCTS		
United States	66.1	(NA)
Middle Atlantic Division:		
Pennsylvania	14.3	(NA)
East North Central Division:		
Ohio	11.9	(NA)
East South Central Division:		
Alabama	16.6	(NA)
34966, FENCE AND FENCE GATES (NOT MADE BY WIREDRAWERS)		
United States	131.3	(NA)
West South Central Division:		
Texas	23.3	(NA)
Pacific Division:		
California	25.5	(NA)
34968, OTHER FABRICATED WIRE PRODUCTS		
United States	626.0	(NA)
New England Division:		
Connecticut	11.7	(NA)
Middle Atlantic Division:		
New York	79.8	(NA)
New Jersey	38.2	(NA)
Pennsylvania	62.5	(NA)
East North Central Division:		
Ohio	33.5	(NA)
Indiana	14.4	(NA)
Illinois	45.6	(NA)
Michigan	73.5	(NA)
Wisconsin	8.4	(NA)

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
34968, OTHER FABRICATED WIRE PRODUCTS--Con.		
West North Central Division:		
Minnesota	4.2	(NA)
Missouri	17.6	(NA)
South Atlantic Division:		
Maryland	3.3	(NA)
North Carolina	26.5	(NA)
Georgia	3.3	(NA)
Florida	2.8	(NA)
East South Central Division:		
Kentucky	12.9	(NA)
Tennessee	42.3	(NA)
Alabama	9.5	(NA)
West South Central Division:		
Texas	10.8	(NA)
Mountain Division:		
Colorado	2.5	(NA)
Pacific Division:		
Washington	3.7	(NA)
California	46.4	(NA)
34971, CONVERTED ALUMINUM FOIL PACKAGING PRODUCTS		
United States	386.7	197.3
Pacific Division:		
California	14.5	EE
34972, LAMINATED ALUMINUM FOIL FLEXIBLE PACKAGING		
United States	496.9	229.3
New England Division:		
Massachusetts	19.0	CC
Middle Atlantic Division:		
New Jersey	42.6	12.2
East North Central Division:		
Ohio	77.2	33.0
Illinois	10.8	BB
West South Central Division:		
Texas	2.5	(NA)
Pacific Division:		
California	13.6	BB
34973, CONVERTED FOIL FOR NONPACKAGING APPLICATIONS		
United States	165.1	67.7
Middle Atlantic Division:		
New Jersey	23.9	FF
East North Central Division:		
Ohio	52.7	FF
34991, SAFES AND VAULTS		
United States	181.6	146.1
East North Central Division:		
Ohio	115.5	GG
Pacific Division:		
California	19.3	CC
34992, COLLAPSIBLE TUBES		
United States	106.5	49.1
Middle Atlantic Division:		
New Jersey	21.0	EE
34993, FLAT METAL STRAPPING		
United States	272.6	167.8
Pacific Division:		
California	23.2	EE
34994, OTHER FABRICATED METAL PRODUCTS, N.E.C.		
United States	2,300.0	1,390.5
New England Division:		
Maine	3.8	(NA)
New Hampshire	2.5	(NA)
Massachusetts	53.3	63.1
Rhode Island	13.0	EE
Connecticut	65.2	43.9
Middle Atlantic Division:		
New York	115.8	54.3
New Jersey	111.4	43.0
Pennsylvania	241.8	129.5
East North Central Division:		
Ohio	212.7	112.2
Indiana	99.4	58.8
Illinois	328.1	240.4
Michigan	138.4	74.6
Wisconsin	70.2	26.7
West North Central Division:		
Minnesota	55.7	18.8
Iowa	22.3	11.7
Missouri	25.9	39.4
Kansas	10.5	EE
South Atlantic Division:		
Maryland	25.9	23.4
Virginia	78.7	7.5
West Virginia	11.6	5.9
North Carolina	19.0	124.7
South Carolina	18.3	8.0
Georgia	8.4	13.2
Florida	37.3	16.5
East South Central Division:		
Kentucky	57.8	30.2
Tennessee	42.2	EE
Alabama	52.0	16.2
Mississippi	3.3	CC
West South Central Division:		
Louisiana	6.7	BB
Oklahoma	25.8	9.4
Texas	51.7	45.6
Mountain Division:		
Colorado	25.9	21.5
Arizona	6.0	2.2
Utah	5.2	(NA)
Pacific Division:		
Washington	9.5	BB
Oregon	24.5	8.2
California	185.1	75.6

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3493-	Steel springs, except wire	571.0	487.9	390.8	456.9	433.7	361.8	264.0	205.2
34931	Hot formed springs	454.2	382.5	303.4	-	334.5	279.1	(NA)	(NA)
34932	Cold formed flat springs made of sheet and strip stock	94.3	114.9	98.3	456.9	81.4	56.9	(NA)	(NA)
34930	Steel springs, except wire, n.s.k.	22.2	(2)	(2)	-	17.8	25.8	(NA)	(NA)
3494-	Valves and pipe fittings	5,403.0	4,817.9	4,584.6	4,162.4	3,350.5	2,891.6	2,091.9	1,525.4
34942	Pneumatic and hydraulic valves and power transfer	535.3	607.9	481.8	486.8	372.5	306.8	229.5	(NA)
34943	Other metal valves for piping systems and equipment	2,113.4	1,761.3	1,669.5	1,483.3	1,134.7	1,036.9	793.6	(NA)
34944	Plumbing and heating valves and specialties	206.6	278.4	240.2	234.0	172.1	139.3	101.2	(NA)
34945	Metal fittings, flanges and unions and piping system	1,018.8	936.0	1,007.6	877.6	718.3	602.2	484.7	(NA)
34946	Fittings and assemblies for tubing and hose	482.3	324.4	388.6	380.4	248.1	193.3	55.1	(NA)
34947	Automatic regulating and control valves	696.1	848.9	766.6	644.5	615.6	513.3	327.9	(NA)
34948	Solenoid valves	114.8							(NA)
34940	Valves and pipe fittings, n.s.k.	235.7	(61.0)	(30.3)	55.8	89.2	99.8	99.9	26.5
3495-	Wire springs	933.0	761.3	650.2	693.5	615.0	566.1	465.1	389.5
34952	Precision mechanical springs	392.0	374.5	305.0	326.9	306.8	250.5	211.0	150.0
34953	Other wire springs	500.1	381.1	301.9	320.8	302.2	312.0	254.1	239.5
34950	Wire springs, n.s.k.	40.9	(S)	(43.3)	(45.8)	6.0	3.6	(NA)	(NA)
3496-	Miscellaneous fabricated wire products	1,440.0	1,241.7	1,131.8	1,205.2	1,064.5	942.4	763.0	(NA)
34961	Noninsulated ferrous wire, rope, cable, and strand	171.4	(145.9)	(146.9)	(138.2)	87.5	96.4	81.8	89.0
34964	Ferrous wire cloth and woven wire products	137.7	(89.3)	(81.1)	93.8	94.7	75.3	53.9	48.0
34965	Nonferrous wire cloth and woven wire products	66.1	(83.3)	(80.9)	84.0	52.7	49.8	53.8	(NA)
34966	Fence and fence gates (not made by wiredrawers)	131.3	93.9	87.2	135.0	83.9	73.5	55.1	57.1
34967	Steel nails and spikes (not made by wiredrawers)	88.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
34968	Other fabricated wire products	626.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
34960	Miscellaneous fabricated wire products, n.s.k.	219.5	(99.4)	(95.1)	(80.6)	177.5	190.2	143.9	60.0
3497-	Metal foil and leaf	1,070.3	776.1	625.6	694.1	558.7	511.8	385.6	329.9
34971	Converted aluminum foil packaging products	386.7	310.9	260.5	233.2	176.0	197.3	(NA)	(NA)
34972	Laminated aluminum foil flexible packaging	496.9	326.6	264.6	324.4	266.9	229.3	(NA)	(NA)
34973	Converted foil for nonpackaging applications	165.1	131.4	93.1	125.6	99.1	67.7	(NA)	(NA)
34970	Metal foil and leaf, n.s.k.	21.6	(7.2)	(7.4)	10.9	16.7	17.5	(NA)	(NA)
34980	Fabricated pipe and fittings	1,698.1	1,700.6	1,405.6	1,140.6	790.8	670.5	486.3	286.5
3499-	Fabricated metal products, n.e.c.	3,390.3	2,457.9	2,339.7	2,344.8	2,288.1	2,131.8	1,303.3	856.9
34991	Safes and vaults	181.6	187.5	214.6	199.5	188.4	146.2	79.5	59.3
34992	Collapsible tubes	106.5	64.7	64.0	76.9	53.1	49.1	50.9	44.2
34993	Flat metal strapping	272.6	225.7	189.6	175.9	204.2	167.8		
34994	Other fabricated metal products, n.e.c.	2,300.0	1,916.6	1,725.3	1,646.3	1,467.1	1,390.5	1,172.9	753.4
34990	Fabricated metal products, n.e.c., n.s.k.	529.7	(S)	(146.2)	(246.2)	(375.3)	378.2		

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3493, STEEL SPRINGS, EXCEPT WIRE					
	Materials, parts, containers, and supplies	.....	((X)	235.7	(X)	172.7
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	40.9	46.3	10.2
331012	Sheet and strip		15.6	10.5	8.0	3.6
331015	Structural shapes		(D)	(D)	(X)	(2)
331017	Wire and wire products		32.5	17.9	26.2	9.4
331019	All other carbon steel mill shapes and forms		(D)	(D)	54.9	11.5
	Alloy steel, except stainless:					
331021	Bars and bar shapes		250.9	105.6	235.3	52.0
331029	All other alloy steel mill shapes and forms		2.8	3.0	.6	.4
	Stainless steel mill shapes and forms:					
331033	Sheet and strip		2.5	7.4	1.2	2.5
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	2.8	.3	.6
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(D)	(D)	(X)	(2)
335143	Plate, sheet, and strip, including military cups and discs		.2	.6	(X)	(2)
335152	Pipe and tube		-	-	(X)	(2)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(D)	(D)	(X)	(2)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		-	-	(X)	(2)
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.....	(D)	(D)	(X)	(2)
332045	Steel castings (rough and semifinished)	1,000 s. tons..	1.7	1.5	(X)	(2)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	6.2	(X)	(2)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	25.0	(X)	[2]68.6
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	11.2	(X)	13.9
	INDUSTRY 3494, VALVES AND PIPE FITTINGS					
	Materials, parts, containers, and supplies	.....	(X)	2,051.6	(X)	1,066.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	*212.0	87.4	130.2	35.1
331012	Sheet and strip		**30.1	11.7	29.4	7.1
331013	Plates		(S)	28.8	35.0	12.5
331019	All other		*76.4	41.3	84.0	24.4
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*20.1	17.2	9.0	6.6
331029	All other		(S)	10.4	13.2	7.0
	Stainless steel:					
331033	Sheet and strip		*5.3	13.0	4.7	6.1
331050	All other	1,000 s. tons..	**24.3	59.9	19.1	30.3
335792	Insulated copper wire and cable, except magnet wire	Million lb.....	(NA)	(4)	(X)	(4)
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		*170.9	119.5	89.9	52.8
335143	Plate, sheet, and strip, including military cups and discs		*2.6	2.4	1.7	1.6
335152	Pipe and tube		37.9	33.5	29.4	19.1
	Aluminum and aluminum-base alloy:					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*14.7	12.9	8.9	5.2
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.....	(S)	2.6	1.2	1.0
	Primary metals:					
331051	Pig iron, excluding silvery iron	1,000 s. tons..	(S)	9.3	86.3	6.0
333401	Aluminum and aluminum-base refinery shapes, (ingot, slug, etc.)		4.9	5.1	2.6	1.4
333122	Copper and copper-base alloy refinery shapes		*34.6	44.8	61.7	58.8
	Scrap, excluding home scrap:					
999811	Iron and steel		**315.5	27.2	268.8	12.8
999812	Copper and copper-base alloy		12.3	13.5	19.3	14.2
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)		**139.8	126.0	139.4	72.3
332045	Steel	1,000 s. tons..	*71.8	164.8	57.4	69.0
336100	Aluminum and aluminum-base alloy	Million lb.....	**25.0	32.3	15.4	14.5
336200	Copper and copper-base alloy	Million lb.....	*63.7	80.1	45.9	43.0
346200	Iron and steel forgings	1,000 s. tons..	*74.1	88.8	49.2	41.1
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	121.4	(X)	[5]49.0
349403	Metal valves and fittings purchased for further assembly	.....	(X)	36.1	(X)	[5]36.0
362110	Electric motors and generators under 1 hp (timing motors, synchronous and subsynchronous)	Millions.....	**122.9	6.5	(X)	[5]20.0
265001	Paperboard boxes and containers	.....	(X)	14.8	(X)	[5]19.0
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	21.6	(X)	[5]36.0
307902	Fabricated plastics products, except gaskets	.....	(X)	17.2	(X)	[5]7.0
329300	Gaskets (all types)	.....	(X)	12.1	(X)	[5]11.0
346901	Metal stampings	.....	(X)	13.3	(X)	[5]12.0
349012	Fabricated wire products	.....	(X)	5.9	(X)	[5]11.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[4]455.4	(X)	[4]214.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	314.8	(X)	108.7

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3495, WIRE SPRINGS					
	Materials, parts, containers, and supplies	.....	(X)	419.1	(X)	249.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	4.3	1.8	6.4	1.5
331012	Sheet and strip		158.7	72.2	119.5	28.7
331015	Structural shapes		(6)	(6)	(6)	(6)
331017	Wire and wire products		**406.1	201.6	457.7	134.7
331019	All other		6(S)	629.6	672.4	614.6
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	2.9	9.2	3.3
331029	All other		**4.7	6.3	6.7	4.5
	Stainless steel mill shapes and forms:					
331033	Sheet and strip		**2.8	7.5	1.6	2.9
331050	All other	1,000 s. tons..	**3.1	9.7	3.6	7.0
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(S)	2.2	1.1	1.9
335143	Plate, sheet, and strip, including military cups and discs		.6	.8	.4	.4
335152	Pipe and tube		-	-	(Z)	(Z)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		.1	.1	.1	.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	1.3	-	-
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.....	*.6	.9	.1	.1
332045	Steel castings (rough and semifinished)	1,000 s. tons..				
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	45.8	(X)	31.0
970099	All other materials and components, parts, containers, and supplies	.....				
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	36.4	(X)	19.2
	INDUSTRY 3496, MISCELLANEOUS FABRICATED WIRE PRODUCTS					
	Materials, parts, containers, and supplies	.....	(X)	649.3	(X)	410.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	*38.4	11.6	27.5	6.1
331012	Sheet and strip		*55.3	20.1	39.1	9.1
331015	Structural shapes		*12.3	4.9	15.7	3.6
331017	Wire and wire products		(S)	199.4	531.0	124.1
331019	All other		*39.7	15.7	54.6	12.8
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*.9	1.0	2.8	.9
331029	All other		(S)	12.2	3.7	1.9
	Stainless steel:					
331033	Sheet and strip		(S)	3.4	.9	1.4
33105C	All other	1,000 s. tons..	(S)	20.7	5.2	11.4
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(S)	4.4	14.3	14.7
335143	Plate, sheet, and strip, including military cups and discs		**.3	.5	1.3	1.3
335152	Pipe and tube		(S)	.2	(S)	.7
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	.3	1.2	.6
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*.4	.4	1.3	.6
335008	All other wire, rolled rod and bar, powder, welded tubing, etc	Million lb.....	15.7	14.0	18.7	10.5
332045	Steel castings, (rough and semifinished)	1,000 s. tons..	(S)	3.4	3.8	2.1
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	3.5	(X)	(7)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	148.5	(X)	7122.3
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	185.1	(X)	86.1
	INDUSTRY 3497, METAL FOIL AND LEAF					
	Materials, parts, containers, and supplies	.....	(X)	559.6	(X)	146.4
	Aluminum and aluminum-base alloy:					
335335	Plain foil	Million lb.....	202.5	180.5		
335303	Sheet and plate				130.7	64.9
335008	All other wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc		7.2	6.2		
349702	Aluminum foil, converted (quantity represents metal content)	Million lb.....	(S)	35.8	4.8	4.1
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	26.5	(X)	(8)
260091	Paper and paperboard containers and other paper packaging supplies	.....	(X)	39.4	(X)	(8)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	232.4	(X)	872.6
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	38.8	(X)	4.8

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3498, FABRICATED PIPE AND FITTINGS					
	Materials, parts, containers, and supplies	.....	(X)	846.5	(X)	302.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	50.6	24.3	42.5	8.1
331012	Sheet and strip		32.8	10.3	66.6	12.9
331013	Plates		47.0	12.5	21.1	4.3
331015	Structural shapes		(S)	17.2	14.9	3.1
331016	Pipe		**608.5	286.7		
331017	Wire and wire products		(S)	1.0	281.2	77.9
331019	All other		**52.7	30.0		
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	2.5	1.3	.9
331026	Pipe		105.4	58.9	17.8	14.7
331029	All other		(S)	6.0		
	Stainless steel:					
331033	Sheet and strip		(S)	11.7	2.9	3.2
331036	Pipe		8.9	26.4	(9)	(9)
331050	All other	1,000 s. tons..	(S)	23.2	8.2	15.2
335792	Insulated copper wire and cable, except magnet wire	Million lb.....	.2	.4	9.1	9.1
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	1.7	2.0	1.4
335143	Plate, sheet, and strip, including military cups and discs		(S)	2.0		
335152	Pipe and tube		11.7	13.1	18.7	13.7
	Aluminum and aluminum-base alloys:					
335301	Sheet, plate, and foil		(S)	1.0	.2	.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc					
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	8.9	12.5	5.7	4.6
349450	Metal fittings, flanges, and unions for piping systems	.....	(X)	75.8	(X)	(10)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons..	**3.3	5.0	2.5	1.0
332045	Steel	1,000 s. tons..	2.1	1.9	(D)	(D)
336100	Aluminum and aluminum-base alloy	Million lb.....	*.3	.5	(D)	(D)
336200	Copper and copper-base alloy	Million lb.....	1.5	2.6	1.1	.9
346200	Iron and steel forgings	1,000 s. tons..	(S)	6.5	3.4	3.1
346310	Aluminum and aluminum-base alloy forgings	Million lb.....	(D)	(D)	(D)	(D)
333010	Nonferrous plating metals (chromium, nickel, zinc, etc.)	.....	(Z)	(D)	(X)	.2
349702	Aluminum foil, converted	Million lb.....	(X)	(X)	(10)	(10)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and other shapes	.....	(S)	5.1	(10)	(10)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(S)	.9	(10)	(10)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	2.8	(10)	(10)
346901	Metal stampings	.....	(X)	.7	(10)	(10)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	118.8	(X)	10 82.6
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	83.2	(X)	52.6
	INDUSTRY 3499, FABRICATED METAL PRODUCTS, N.E.C.					
	Materials, parts, and supplies	.....	(X)	1,439.3	(X)	772.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	22.3	109.5	23.6
331012	Sheet and strip		*854.9	277.5	711.6	141.2
331013	Plates		**97.1	34.4	54.3	11.2
331015	Structural shapes		(S)	11.5	41.3	9.7
331016	Pipe		(S)	7.5	(NA)	(11)
331017	Wire and wire products		**15.1	9.6	31.3	7.2
331019	All other carbon steel mill shapes and forms		(S)	20.8	133.5	32.1
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	6.6	5.9	3.6
331026	Pipe		(S)	.3	(NA)	(11)
331029	All other alloy steel mill shapes and forms		24.4	19.5	24.8	12.9
	Stainless steel:					
331033	Sheet and strip		**10.5	18.7	9.5	10.7
331036	Pipe		**2.4	4.6	(NA)	(11)
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	14.1	3.4	5.6
335792	Insulated copper wire and cable, except magnet wire	Million lb.....	.2	.8	(NA)	(11)
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	4.5	3.7	2.5
335143	Plate, sheet, and strip, including military cups and discs		(S)	4.9	4.5	3.9
335152	Pipe and tube		(S)	2.5	1.4	1.4
	Aluminum and aluminum-base alloys:					
335301	Sheet, plate, and foil		39.3	32.6	116.7	43.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		61.3	49.8	40.7	16.5
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(S)	12.5	7.8	3.8
349450	Metal fittings, flanges, and unions for piping systems	.....	(S)	.6	(NA)	(11)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3499, FABRICATED METAL PRODUCTS, N.E.C.--Con.					
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s. tons	*15.5	19.4	8.5	5.7
332045	Steel	1,000 s. tons	(S)	4.2	5.5	4.8
336100	Aluminum and aluminum-base alloy	Million lb	**4.0	3.1	4.2	2.1
336200	Copper and copper-base alloy	Million lb	**2.0	3.4	1.0	1.5
346200	Iron and steel forgings	1,000 s. tons	(S)	1.4	2.5	2.3
346310	Aluminum and aluminum-base alloy forgings	Million lb	(S)	.9	.8	.9
333010	Nonferrous plating metals (chromium, nickel, zinc, etc.)		(X)	6.7	(X)	3.7
349702	Aluminum foil, converted	Million lb	(NA)	([12])	(NA)	([11])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and other shapes	Million lb	**24.3	8.9	(NA)	([11])
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	1,000 gal	*1,474.0	9.2	(X)	3.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(S)	12.5	(NA)	([11])
346901	Metal stampings		(S)	7.8	(NA)	([11])
970099	All other materials and components, parts, containers, and supplies		(NA)	[12]436.5	(NA)	[11]231.5
971000	Materials, parts, and supplies, n.s.k.[3]		(X)	369.7	(X)	188.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 331015, 335102, 335143, 335152, 335301, 335405, 335008, 332045, and 345001 were included with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1977 and 1972, material code 335792 was included with material code 970099.

[5]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[6]Material code 331015 is included in material code 331019.

[7]For 1972, material code 345001 was combined with material code 970099.

[8]For 1972, material codes 307903 and 260091 were combined with material code 970099.

[9]For 1972, material code 331036 was included with material code 335792.

[10]For 1972, material codes 349450, 349702, 282104, 285101, 370903, and 346901 were included with material code 970099.

[11]For 1972, material codes 331016, 331026, 331036, 335792, 349450, 349702, 282104, 307903, and 346901 were included with material code 970099.

[12]For 1977, material code 349702 was included with material code 970099.

APPENDIX A. Explanation of Terms

This appendix is in two sections. Section 1 includes items for which all establishments that were mailed census of manufactures forms were requested to supply information. Section 2 covers supplementary items for which only establishments included in the annual survey of manufactures (ASM) sample were requested to supply information. Results of the supplementary ASM inquiries are included in this report. (See the Introduction, Manufacturing Universe and Census Report Forms, for a detailed explanation of the use of the ASM sample in a census of manufactures year and a description of the various report forms.)

SECTION 1. ITEMS COLLECTED ON ALL CENSUS OF MANUFACTURES REPORT FORMS

Employment and related items—The regular report forms requested separate information on production workers as of a payroll period for each quarter of the year and on other employees as of the payroll period which included the 12th of March.

All employees—This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period ending nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the mid-month payroll periods of March, May, August, and November.

Production workers—This item includes workers (up through the working foreman level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and watchman services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Supervisory employees above the working foreman level are excluded from this category.

All other employees—This item covers nonproduction personnel of the manufacturing establishment, including those engaged in factory supervision above the working foreman level, sales (including driver salesmen), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical. Also included are employees on the payroll of the manufacturing establishment who are engaged in the construction of major additions or alterations to the plant and who are utilized as a separate work force.

In addition to reports sent to operating manufacturing establishments, information on employment during the payroll period which included March 12 and annual payrolls was also requested of administrative offices or auxiliary units (e.g., warehouses and research and development laboratories) of multiestablishment companies. However, these figures are not included in the totals for individual industries shown in this report. They are included in the Summary and Geographic Area reports and in the final bound volumes as a separate category.

Administrative office and auxiliary unit employees—As noted in the Introduction, companies were asked to file a special report form for any administrative office that was at a different location than the establishments managed or served, or at the same location as one of the establishments but not operated as an integral part of the establishment. Employees in **administrative offices** are concerned with the general management of multiestablishment companies, i.e., with the general supervision and control of two units or more, such as manufacturing plants, mines, sales branches, or stores. The functions of these employees may include (1) program planning, including sales research and coordination of purchasing, production, and distribution; (2) company purchasing, including general contracts and purchasing methods; (3) company financial policy and accounting, tax accounting, company sales and profits reports, and personnel accounting; (4) general engineering, including design of product machinery and equipment, and direction of engineering effort conducted at the individual operation locations; (5) direction of company personnel matters; and (6) legal and patent matters. **Auxiliaries** are separate storage facilities, garages, repair shops, purchasing offices, sales promotion offices, research and development organizations, etc., serving the plants or central management of the company.

The employment and payrolls of the administrative offices and auxiliaries serving manufacturing establishments are included in all tables at the "all industries" level. In tables where industry detail is shown, the data for these units appear as a separate industry group.

Payrolls—This item includes the gross earnings paid in the calendar year 1977 to all employees on the payroll of operating

manufacturing establishments. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations, but excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payroll of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Federal Statistical Policy and Standards. It should be noted that this definition does not include employers' Social Security contributions or other nonpayroll labor costs such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' supplemental labor costs, both those required by Federal and State laws and those incurred voluntarily or as part of collective bargaining agreements. (Supplemental labor costs are explained later in this appendix.)

As in the case of employment figures, the payrolls of separate administrative offices and auxiliary units of multi-establishment companies are included in all tables at the "all industries" level. In tables where industry detail is shown, the data for these units appear as a separate industry group.

Production worker hours—This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials—This item refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, regardless of whether what was consumed was purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (1) all raw materials, semifinished goods, parts, components, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (2) electric energy purchased; (3) fuels consumed for heat, power, or generating electricity; (4) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (5) products bought and resold in the same condition. (See discussion of duplication of data.)

Value of shipments—This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishments from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit. (See discussion of duplication of data.)

Duplication in cost of materials and value of shipments—The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication, since the products of some industries are used as materials by others. With some important exceptions, such as for motor vehicles and parts, this duplication is not significant at the 4-digit industry level. However, it is significant at the 2-digit and 3-digit industry group level because these totals often include industries which represent successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the "Food" group and the addition of pulp mills to paper mills in the "Paper and Allied Products" group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication—the value of finished manufactures—tends to approximate two-thirds of the total value of products reported in the census of manufactures.

Value added by manufacture—This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is then adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

"Value added" avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

New and used capital expenditures—For establishments in operation and establishments under construction but not yet in operation, manufacturers were asked to report their new expenditures for (1) permanent additions and major alterations to manufacturing establishments, and (2) machinery and equip-

ment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

The totals for new expenditures exclude that portion of expenditures leased from nonmanufacturing concerns, new facilities owned by the Federal Government but operated under contract by private companies, and plant and equipment furnished to the manufacturer by communities and nonprofit organizations. Also excluded are expenditures for used plant and equipment (although reported in the census), expenditures for land, and cost of maintenance and repairs charged as current operating expenses.

Manufacturers were also requested to report the value of all used buildings and equipment purchased during the year at the purchase price. For any equipment or structure transferred to the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. Furthermore, if the establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported under used capital expenditures.

Total expenditures for used plant and equipment is a universe figure; i.e., it is collected on all census forms. However, the breakdown of this figure between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form and is subject to sampling error (see table 3b, chapters 2 and 4).

End-of-year inventories—Respondents were asked to report their 1977 and 1976 end-of-year inventories at approximate current costs, if feasible; otherwise, at book values. Since different methods of inventory valuation are used (last-in-first-out (LIFO), first-in-first-out (FIFO), etc.), the definition of the value of inventories aggregate for all establishments in an industry is not precise. The change in inventory between years is of considerably greater significance.

In using inventory data by stage of fabrication for "all industries" and at the 2-digit industry level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by another establishment in a different industry. For example, the finished product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for individual industries, industry groups, and "all manufacturing" which are aggregates of figures reported by establishments in specified industries.

SECTION 2. ITEMS COLLECTED ONLY ON ASM REPORT FORM

Cost of purchased services—ASM establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery and communication services. Included in the cost of purchased services for the repair of building and machinery are payments made for all maintenance and repair work on buildings and equipment such as painting, roof repairs, replacing parts, and overhauling equipment. Such payments made to other establishments of the same company and for repair and maintenance of any leased property are also included. Extensive repairs or reconstruction that were capitalized are considered capital expenditures for used buildings and machinery and are, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract and incurred directly by an establishment in using its own work force are also excluded.

The response coverage ratio for each of the three types of purchased services listed above is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those ASM establishments that reported the specific inquiry to the weighted total employment for all ASM establishments classified in the industry (see table 3c, chapters 2 and 4).

Rental payments—This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets, and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets were to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company, and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

Supplemental labor costs—Supplemental labor costs are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees. While the excluded items do benefit employees, and all or part of their cost is generally similar to the items covered in the annual survey labor costs statistics, accounting records do not generally provide reliable figures on net employee benefits of these types.

Beginning and end-of-year depreciable assets—The data encompass all fixed depreciable assets on the books of establishments at the beginning and at the end of the year. The values shown represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets, including inventories and intangible assets such as patent rights and royalties. Also excluded are land and depletable assets such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year, rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress. In addition, respondents were requested to make certain that assets at the beginning of the year plus new and used capital expenditures, less retirements, equaled assets at the end of the year.

New and used capital expenditures—The data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used capital expenditures are collected on all census forms. However, the breakdown between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form. (See further explanation on capital expenditures in section 1.)

Breakdown of new capital expenditures for machinery and equipment—ASM establishments were requested to separate their capital expenditures for new machinery and equipment into (1) automobiles, trucks, etc., for highway use; (2) computers and peripheral data processing equipment; and (3) all other.

The category "automobiles, trucks, etc., for highway use" is intended to measure expenditures for vehicles designed for highway use which were acquired through a purchase of lease-purchase agreement. Vehicles normally operating off public highways—vehicles specifically designed to transport materials, property, or equipment on mining, construction, logging, and petroleum development projects—are excluded from this item.

The "not specified by kind" or n.s.k. item for expenditures for new machinery and buildings shown in table 3b represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories. This means that for most industries the specific categories are understated.

Retirements—Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during 1977. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent was also requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

Depreciation charges—This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

APPENDIX B. Annual Survey of Manufactures

DESCRIPTION OF SURVEY SAMPLE

The annual survey of manufactures (ASM) is a survey based on a probability sample of about 70,000 manufacturing establishments selected from the census of manufactures universe. The current sample was selected from the manufacturing establishments included in the 1972 Census of Manufactures supplemented by Social Security Administration (SSA) files of manufacturers that opened after 1972. As in the earlier surveys, companies rather than establishments were defined as the sampling units. The selected companies were required to report for all of their plants, so that new establishments of existing companies also were represented in the sample.

All companies that had any manufacturing establishments with 250 employees or more in the 1972 census were included in the survey sample. These large companies, included with certainty, collectively account for more than two-thirds of total manufacturing employment.

Smaller companies were selected for the ASM in accordance with mathematical theory for optimum allocation of a sample. Their probabilities of inclusion ranged from 1.000 to 0.005 and were proportional to measures of size determined for each company. The measures of size of companies included in the 1972 Census of Manufactures depended directly upon each company's 1972 product class values and the historic variability of the year-to-year shipments of each product class. Roughly equivalent measures of size were assigned to the postcensus companies based on their industry codes and anticipated employment. (More specific information was not available for them in the SSA files used for sampling.)

To improve the reliability of the industry statistics for geographic areas, two features were incorporated into the sample design. First, some weight was given to the total value of shipments of each establishment relative to the total value of shipments for the State in which the establishment was located. Second, product class values for establishments in those States in which the total level of manufacturing was relatively low or was rapidly expanding (but for which the reliability of estimates was not expected to be much improved by the first sample design feature) were multiplied by factors ranging from 1.15 to 1.25 before measures of size were developed.

This method of assigning measures of size was used to maximize the precision (i.e., minimize the variance) of estimates of the year-to-year change in the value of product class shipments. Implicitly, it also gave weight to differences in employment, value added, and other industry statistics. These items are highly correlated with total value of shipments, and the assigned size measures varied directly with that total for each company.

The cost of collecting and processing data for a company is roughly proportional to the number of its establishment reports. To maximize the sample information obtained for a fixed total cost, each company's initial size measure was divided by the square root of its number of establishments. Sample selection probabilities then were obtained by multiplying each company's final measure of size by an overall sampling fraction calculated to yield the total expected sample size.

The sample selection procedure gave each company in the sampling frame an independent chance of selection. This method of selection differs from the method of systematic selection used in annual surveys prior to 1959. (With systematic selection, only certain combinations of companies can fall into the sample depending on the order in which they are arrayed at the time the sample is drawn.) Independent selection permits the rotation of the smaller companies into and out of a given sample panel without introducing a bias into the survey estimates.

ESTIMATING PROCEDURES

Most of the historical data compiled from the annual survey of manufactures sample were computed by the "difference estimate formula." For each item, linear estimates of the totals for both the most recent census of manufactures year and the ASM year were developed by multiplying each sample establishment's data by its sample weight (the reciprocal of its probability of selection) and summing the weighted values to publication levels. Then the difference between the two linear estimates was added to the complete (universe) total for the census year to produce the estimate for the ASM year. Estimates developed by the difference estimate formula usually are far more reliable than the comparable linear estimates developed from the current sample data alone.

The 1977 sample data were also developed using difference estimates. However, since the universe totals for the census year (either 1972 or 1977) were not known, a modification of the procedure described above was necessary. For each item, except purchased services and the breakdown of expenditures for new machinery and equipment (see further description in appendix A), linear estimates of the publication totals from the ASM sample were adjusted by the difference between imputed census totals and the corresponding ASM sample estimates of these imputed totals. These imputed totals are obtained by applying industry average ratios to control item values at the establishment level. For example, an imputed total beginning assets figure is obtained by multiplying each establishment's total value of shipments by the industry (4-digit SIC) average for the ratio of beginning assets to shipments.

QUALIFICATIONS OF THE DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sampled lists but otherwise conducted under essentially the same conditions as the actual sample survey. The sampling errors—the differences between the estimates obtained and the results theoretically obtainable from a comparable complete coverage survey—are unknown. Guides to the potential size of the sampling errors, however, are provided by the standard errors of the estimates.

The particular sample selected for the ASM is one of a large number of similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretical, comparable, complete coverage values.

Estimates of the standard errors have been computed from the sample data for the current statistics, as well as the historical ASM data. They are presented in the form of relative standard errors, i.e., the standard errors divided by the estimated values to which they refer.

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals—ranges that would include the comparable complete coverage value for specified percentages of all the possible samples. The complete coverage value would be included in the range:

a. From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
b. From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.
c. From three standard errors below to three standard errors above the derived estimate for nearly all possible samples.

An inference that the comparable complete survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence with which the estimates from a particular sample would differ from complete coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown as 50,000 with an associated relative standard error of 2 percent, i.e., a standard error of 1,000 (2 percent of 50,000). Then there is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete coverage total.

In addition to the sample errors, the estimates are subject to various operational errors (errors of collection, reporting, coding, transcription, imputation for nonresponse, etc.). These errors would also occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected in the course of the Bureau's review of the data for reasonableness and consistency. When they were detected too late to correct, the data were suppressed or were specifically qualified in the tables. The small operational errors usually remain; to some extent, they are compensating in the aggregated totals shown.

As derived, the estimated standard errors include part of the effect of the operational errors. The total error, which depends upon the joint effect of the sampling and operation errors, is usually of the order of size indicated by the standard error or only moderately higher. For particular estimates, however, the total error may considerably exceed the standard errors shown.

The concept of complete coverage under the conditions prevailing for the annual surveys of manufactures is not identical to the complete coverage of the censuses of manufactures as conducted. Nearly all types of operational errors that affect the surveys also occur in the censuses. The surveys and the censuses, however, are conducted under quite different conditions, and operational errors can be controlled more tightly in the surveys than in the censuses. As a result, errors in many of the census figures are of the same order of size as the total errors in the corresponding annual survey estimates. The differences between the census and the survey operating conditions also disturb, to some degree, the comparability of the census and annual survey data.

Any figure shown in the tables in this publication having an associated standard error exceeding 15 percent may be of limited reliability. However, the figure may be combined with other totals, creating a broader aggregate, which may then be of acceptable reliability.

APPENDIX C. Industry Descriptions

This appendix contains descriptions of the 450 4-digit industries for which data were compiled and published in the 1977 Census of Manufactures. With two exceptions, the industries are the same as those described in the 1972 edition of the Standard Industrial Classification (SIC) Manual. SIC Industry 3572, Typewriters, was combined with Industry 3579, Office Machines, N.E.C., in the census tabulations and SIC Industry 3716, Motor Homes Produced on Purchased Chassis, was added

The industry titles and descriptions, in general, agree with those appearing in the SIC Manual, but the descriptions have been expanded, in some instances, to include references to additional products classified in other industries.

20 FOOD AND KINDRED PRODUCTS

This major group includes establishments manufacturing or processing foods and beverages for human consumption, and certain related products, such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls.

201 MEAT PRODUCTS

2011 Meatpacking Plants.—Establishments primarily engaged in the slaughtering, for their own account or on a contract basis for the trade, of cattle, hogs, sheep, lambs, and calves for meat to be sold or to be used on the same premises in canning and curing, and in making sausage, lard and other products. Establishments primarily engaged in killing, dressing, and packing poultry, rabbits, and other small game are classified in industry 2016; and those primarily engaged in killing and processing horses and other nonfood animals are classified in industry 2047. Establishments primarily engaged in manufacturing sausages and meat specialties from purchased meats are classified in industry 2013; and establishments primarily engaged in canning meat for baby food are classified in industry 2032.

2013 Sausages and Other Prepared Meat Products.—Establishments primarily engaged in manufacturing sausages, cured meats, smoked meats, canned meats, frozen meats, natural sausage casings, and other prepared meats and meat specialties from purchased carcasses and other materials. Sausage kitchens and other prepared meat plants operated by packing houses as separate establishments are also included in this industry. Establishments primarily engaged in canning or otherwise processing poultry, rabbits, and other small game are classified in industries 2016 and 2017. Establishments primarily engaged in the cutting up and resale of purchased fresh carcasses are classified in trade industries. Establishments primarily engaged in canning meat for baby food are classified in industry 2032.

2016 Poultry Dressing Plants.—Establishments primarily engaged in slaughtering and dressing poultry for their own account or on a contract basis for the trade for meat to be sold or to be used on the same premises in further processing, including cooking, smoking, raw-boning, canning, freezing, and dehydrating. This industry also includes the killing, dressing, and packing of rabbits and other small game. Establishments primarily engaged in processing purchased carcasses are classified in industry 2017.

2017 Poultry and Egg Processing.—Establishments primarily engaged in the preparation of processed poultry products from purchased carcasses, including cooking, smoking, raw-boning, canning, freezing, and dehydrating, for their own account or on a contract basis for the trade; or in the drying, freezing, and breaking of eggs. The cleaning, oil treating, packing, and grading of eggs are classified in industry 5144. Establishments primarily engaged in the cutting up and resale of purchased fresh carcasses are classified in the trade industries.

202 DAIRY PRODUCTS

This group includes establishments primarily engaged in (1) manufacturing creamery butter, natural cheese, condensed and evaporated milk, ice cream and frozen desserts, and special dairy products such as processed cheese and malted milk and (2) processing (pasteurizing, homogenizing, vitaminizing, bottling) fluid milk and cream for wholesale or retail distribution. Independently operated milk receiving stations primarily engaged in the assembly and reshipment of bulk milk for the use of manufacturing or processing plants are classified in industry 5143.

2021 Creamery Butter.—Establishments primarily engaged in manufacturing creamery butter.

2022 Cheese, Natural and Processed.—Establishments primarily engaged in manufacturing all types of natural cheese (except cottage cheese—industry 2026), processed cheese, cheese foods, and cheese spreads.

2023 Condensed and Evaporated Milk.—Establishments primarily engaged in manufacturing condensed and evaporated milk and related products, including ice-cream mix and ice-milk mix made for sale as such, and dry milk products. Also included in the manufacture of nondairy-base cream substitutes and dietary supplements.

2024 Ice Cream and Frozen Desserts.—Establishments primarily engaged in manufacturing ice cream and other frozen desserts.

2026 **Fluid Milk.**—Establishments primarily engaged in processing (pasteurizing, homogenizing, vitaminizing, bottling) and distributing fluid milk and cream, and related products, including cottage cheese.

203 CANNED AND PRESERVED FRUITS AND VEGETABLES

2032 **Canned Specialties.**—Establishments primarily engaged in canning specialty products, such as baby foods, "native foods," health foods, and soups except seafood. Establishments primarily engaged in canning seafoods other than frozen are classified in industry 2091, frozen seafoods in industry 2092, and those primarily engaged in quick freezing canned specialties in industry 2038.

2033 **Canned Fruits, Vegetables, Preserves, Jams, and Jellies.**—Establishments primarily engaged in canning fruits and vegetables, and fruit and vegetable juices; and manufacturing catsup and similar tomato sauces, preserves, jams, and jellies. Establishments primarily engaged in canning seafoods (except frozen) are classified in industry 2091; and canned specialties, baby foods, and soups (except seafood) in industry 2032.

2034 **Dried and Dehydrated Fruits, Vegetables, and Soup Mixes.**—Establishments primarily engaged in sun drying or artificially dehydrating fruits and vegetables, or in manufacturing packaged soup mixes from dehydrated ingredients. Establishments primarily engaged in the grading and marketing of farm dried fruits, such as prunes and raisins, are classified in industry 5149.

2035 **Pickled Fruits and Vegetables, Vegetable Sauces and Seasonings, and Salad Dressings.**—Establishments primarily engaged in pickling and brining fruits and vegetables, and in manufacturing salad dressings, vegetable relishes, sauces, and seasonings. Establishments primarily engaged in manufacturing catsup and similar tomato sauces are classified in industry 2033, and those packing purchased pickles and olives in trade industries.

2037 **Frozen Fruits, Fruit Juices and Vegetables.**—Establishments primarily engaged in freezing and coldpacking (freezing) fruits, fruit juices, and vegetables.

2038 **Frozen Specialties.**—Establishments primarily engaged in freezing and coldpacking (freezing) food specialties such as frozen dinners and frozen pizza.

204 GRAIN MILL PRODUCTS

2041 **Flour and Other Grain Mill Products.**—Establishments primarily engaged in milling flour or meal from grain, except rice. The products of flour mills may be sold plain or in the form of prepared mixes or doughs for specific purposes. Establishments primarily engaged in manufacturing prepared flour mixes or doughs from purchased ingredients are classified in industry 2045, and rice milling in industry 2044.

2043 **Cereal Breakfast Foods.**—Establishments primarily engaged in manufacturing cereal breakfast foods and related preparations.

2044 **Rice Milling.**—Establishments primarily engaged in cleaning and polishing rice, and in manufacturing rice flour or meal. Other important products of this industry include brown rice, milled rice (including polished rice), rice polish, and rice bran.

2045 **Blended and Prepared Flour.**—Establishments primarily engaged in the preparation of blended flours and flour mixes or doughs from purchased flour. Establishments primarily engaged in milling flour from grain are classified in industry 2041.

2046 **Wet Corn Milling.**—Establishments primarily engaged in milling corn or sorghum grain (milo) by the wet process, and producing starch, sirup, oil, sugar, and byproducts such as gluten feed and meal. Establishments primarily engaged in manufacturing starch from other vegetable sources (potato, wheat, etc.) are also included. Establishments primarily engaged in manufacturing table sirups from corn sirup and other ingredients and those manufacturing starch-base dessert powders are classified in industry 2099.

2047 **Dog, Cat and Other Pet Food.**—Establishments primarily engaged in manufacturing dog, cat, and other pet food from cereal, meat, and other ingredients. These preparations may be canned, frozen, or dry. This industry also includes establishments slaughtering animals for pet food. Establishments primarily engaged in manufacturing feed for animals, other than pets, are classified in industry 2048.

2048 **Prepared Feeds and Feed Ingredients for Animals and Fowls, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing prepared feeds and feed ingredients and adjuncts, for animals and fowls, not elsewhere classified. This industry in-

cludes poultry and livestock feed and feed ingredients, such as alfalfa meal, feed supplements, feed concentrates, and feed premixes. Establishments primarily engaged in manufacturing pet foods are classified in industry 2047.

205 BAKERY PRODUCTS

2051 Bread and Other Bakery Products, Except Cookies and Crackers.—Establishments primarily engaged in manufacturing bread, cakes, and other "perishable" bakery products. Establishments manufacturing bakery products for sale primarily for home service delivery, or through one or more non-baking retail outlets, are included in this industry. Establishments primarily engaged in producing "dry" bakery products, such as biscuits, crackers, and cookies, are classified in industry 2052. Establishments producing bakery products primarily for direct sale on the premises to household consumers are classified in Retail Trade, industry 5462.

2052 Cookies and Crackers.—Establishments primarily engaged in manufacturing cookies, crackers, pretzels, and similar "dry" bakery products. Establishments primarily engaged in producing "perishable" bakery products are classified in industry 2051.

206 SUGAR AND CONFECTIONERY PRODUCTS

2061 Cane Sugar, Except Refining Only.—Establishments primarily engaged in manufacturing raw sugar, sirup, or finished (granulated or clarified) cane sugar from sugarcane. Establishments primarily engaged in refining sugar from purchased raw cane sirup or sugar sirups are classified in industry 2062.

2062 Cane Sugar Refining.—Establishments primarily engaged in refining purchased raw cane sugar and sugar sirup.

2063 Beet Sugar.—Establishments primarily engaged in manufacturing sugar from sugar beets.

2065 Candy and Other Confectionery Products.—Establishments primarily engaged in manufacturing candy, including chocolate candy, salted nuts, other confections, and related products. Establishments primarily engaged in manufacturing solid chocolate bars are classified in industry 2066 and chewing gum in industry 2067. Establishments primarily engaged in manufacturing confectionery for direct sale on the premises are classified in industry 5441, and those primarily engaged in shelling and roasting nuts are classified in industry 5145.

2066 Chocolate and Cocoa Products.—Establishments primarily engaged in shelling, roasting, and grinding cacao beans for the purpose of making chocolate liquor, from which cocoa powder and cocoa butter are derived, and in the further manufacture of solid chocolate bars and chocolate coatings. Establishments primarily engaged in manufacturing products, except candy, from purchased chocolate and cocoa are classified in industry 2099, and chocolate candy in industry 2065.

2067 Chewing Gum.—Establishments primarily engaged in manufacturing chewing gum or chewing gum base.

207 FATS AND OILS

2074 Cottonseed Oil Mills.—Establishments primarily engaged in manufacturing cottonseed oil and byproduct cake, meal, and linters. Establishments primarily engaged in refining cottonseed oil into edible cooking oils are classified in industry 2079.

2075 Soybean Oil Mills.—Establishments primarily engaged in manufacturing soybean oil and byproduct cake and meal. Establishments primarily engaged in refining soybean oil into edible cooking oils are classified in industry 2079.

2076 Vegetable Oil Mills, Except Corn, Cottonseed, and Soybean.—Establishments primarily engaged in manufacturing vegetable oils and byproduct cake and meal, except corn, cottonseed, and soybean. Establishments primarily engaged in manufacturing corn oil and its byproducts are classified in industry 2046, those which are refining vegetable oils into edible cooking oils are classified in industry 2079, and those refining these oils for medicinal purposes in industry 2833.

2077 Animal and Marine Fats and Oils.—Establishments primarily engaged in manufacturing animal oils, including fish oil and other marine animal oils and fish and animal meal; and those rendering inedible grease and tallow from animal fat, bones, and meat scraps. Establishments primarily engaged in manufacturing lard and edible tallow and stearin are classified in group 201; those refining marine animal oils for medicinal purposes in industry 2833; and those manufacturing fatty acids in industry 2899.

2079 **Shortening, Table Oils, Margarine and Other Edible Fats and Oils, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing shortening, table oils, margarine, and other edible fats and oils, not elsewhere classified, by further processing of purchased animal and vegetable oils. Establishments primarily engaged in producing corn oil are classified in industry 2046.

208 BEVERAGES

2082 **Malt Beverages.**—Establishments primarily engaged in manufacturing all kinds of malt beverages. Establishments primarily engaged in bottling purchased malt beverages are classified in industry 5181.

2083 **Malt.**—Establishments primarily engaged in manufacturing malt or malt byproducts from barley or other grains.

2084 **Wines, Brandy, and Brandy Spirits.**—Establishments primarily engaged in manufacturing wines, brandy, and brandy spirits. This industry also includes bonded storerooms which are engaged in blending wines. Establishments primarily bottling purchased wines, brandy, and brandy spirits, but which do not manufacture wines and brandy, are classified in industry 5182.

2085 **Distilled, Rectified, and Blended Liquors.**—Establishments primarily engaged in manufacturing alcoholic liquors by distillation and rectification and in manufacturing cordials and alcoholic cocktails by blending processes or by mixing liquors and other ingredients. Establishments primarily engaged in manufacturing industrial alcohol are classified in industry 2869, and those only bottling purchased liquors in industry 5182.

2086 **Bottled and Canned Soft Drinks and Carbonated Waters.**—Establishments primarily engaged in manufacturing soft drinks (nonalcoholic beverages) and carbonated waters. Establishments primarily engaged in manufacturing fruit and vegetable juices are classified in group 203, fruit sirups for flavoring in industry 2087, and cider in industry 2099. Establishments primarily engaged in bottling natural spring waters are classified in industry 5149.

2087 **Flavoring Extracts and Flavoring Sirups, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing flavoring extracts, sirups, and fruit juices, not elsewhere classified, for soda fountain use or for the manufacture of soft drinks, and colors for bakers' and confectioners' use. Establishments primarily engaged in manufacturing chocolate sirup are classified in industry 2066 if from cacao beans and in industry 2099 if from purchased chocolate.

209 MISCELLANEOUS FOOD PREPARATIONS AND KINDRED PRODUCTS

2091 **Canned and Cured Fish and Seafoods.**—Establishments primarily engaged in cooking and canning fish, shrimp, oysters, clams, crabs, and other seafoods, including soups; and those engaged in smoking, salting, drying, or otherwise curing fish for the trade. Establishments primarily engaged in shucking and packing fresh oysters in nonsealed containers, or in freezing and packaging fresh fish, are classified in industry 2092.

2092 **Fresh or Frozen Packaged Fish and Seafoods.**—Establishments primarily engaged in preparing fresh and raw or cooked frozen packaged fish and other seafood, including soups. This industry also includes establishments primarily engaged in the shucking and packing of fresh oysters in nonsealed containers.

2095 **Roasted Coffee.**—Establishments primarily engaged in roasting coffee and in manufacturing coffee concentrates and extracts in powdered, liquid, or frozen form, including freeze-dried.

2097 **Manufactured Ice.**—Establishments primarily engaged in manufacturing ice for sale. Ice plants operated by public utility companies are included in this industry when separate reports are available. When separate reports are not available, they should be classified in SIC Major Group 49. Establishments primarily engaged in manufacturing dry ice are classified in industry 2813.

2098 **Macaroni, Spaghetti, Vermicelli, and Noodles.**—Establishments primarily engaged in manufacturing dry macaroni, spaghetti, vermicelli, and noodles. Establishments primarily engaged in manufacturing canned macaroni, spaghetti, etc., are classified in industry 2032.

2099 **Food Preparations, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing prepared foods and miscellaneous food specialties, not elsewhere classified, such as baking powder, yeast, and other leavening compounds; chocolate and cocoa products, except confectionery, made from purchased materials; peanut butter; packaged tea including instant; ground spices; potato, corn, and other chips; and vinegar and cider.

21 TOBACCO MANUFACTURES

This major group includes establishments engaged in manufacturing cigarettes, cigars, smoking and chewing tobacco, and snuff, and in stemming and redrying tobacco. The manufacture of insecticides from tobacco byproducts is included in SIC Major Group 28.

211 CIGARETTES

2111 **Cigarettes.**—Establishments engaged in manufacturing cigarettes.

212 CIGARS

2121 **Cigars.**—Establishments engaged in manufacturing cigars. Retail stores producing cigars are classified in trade industries.

213 TOBACCO (CHEWING AND SMOKING) AND SNUFF

2131 **Tobacco (Chewing and Smoking) and Snuff.**—Establishments engaged in manufacturing smoking and chewing tobaccos, and snuff.

214 TOBACCO STEMMING AND REDRYING

2141 **Tobacco Stemming and Redrying.**—Establishments primarily engaged in the stemming and redrying of tobacco. Establishments which sell leaf tobacco as merchant wholesalers, agents, or brokers, and which may be also engaged in stemming tobacco, are classified in SIC Major Group 51. Leaf tobacco warehouses which may be also engaged in stemming tobacco are classified in SIC Major Group 42.

22 TEXTILE MILL PRODUCTS

This major group includes establishments engaged in performing any of the following operations: (1) Preparation of fiber and subsequent manufacturing yarn, thread, braids, twine, and cordage; (2) manufacturing broadwoven fabric, narrow woven fabric, knit fabric, and carpets and rugs from yarn; (3) dyeing and finishing fiber, yarn, fabric, and knit apparel; (4) coating, waterproofing, or otherwise treating fabric; (5) the integrated manufacture of knit apparel and other finished articles from yarn; and (6) the manufacture of felt goods, lace goods, nonwoven fabrics, and miscellaneous textiles.

This classification makes no distinction between the two types of organizations which operate in the textile industry: (1) The "integrated" mill which purchases materials, produces textiles and related articles within the establishment, and sells the finished products; and (2) the "contract" or "commission" mill which processes materials owned by others. Converters or other nonmanufacturing establishments which assign materials to contract mills for processing (other than knitting) are classified in nonmanufacturing industries; establishments which assign yarns to outside contractors or commission knitters for the production of knit products are classified in group 225.

221 BROADWOVEN FABRIC MILLS, COTTON

2211 **Broadwoven Fabric Mills, Cotton.**—Establishments primarily engaged in weaving fabrics over 12 inches in width, wholly or chiefly by weight of cotton. Establishments primarily engaged in weaving cotton carpets and rugs are classified in industry 2271; those tufting carpets and rugs in industry 2272; those making tire cord and fabric in industry 2296; and finishers of cotton broadwoven fabrics in industry 2261.

222 BROAD WOVEN FABRIC MILLS, MANMADE FIBER AND SILK

2221 **Broadwoven Fabric Mills, Manmade Fiber and Silk.**—Establishments primarily engaged in weaving fabrics over 12 inches in width, wholly or chiefly by weight of silk and manmade fibers, including glass. Establishments primarily engaged in weaving carpets and rugs from these fibers are classified in industry 2271; those tufting carpets and rugs from these fibers in industry 2272; those making tire cord and fabric in industry 2296; and finishers of manmade fiber and silk broadwoven goods in industry 2262.

223 BROADWOVEN FABRIC MILLS, WOOL (INCLUDING DYEING AND FINISHING)

2231 **Broadwoven Fabric Mills, Wool (Including Dyeing and Finishing).**—Establishments primarily engaged in

weaving fabrics over 12 inches in width, wholly or chiefly by weight of wool, mohair, or similar animal fibers; those dyeing and finishing all woven wool fabrics or dyeing wool, tops, or yarn; and those shrinking and sponging wool goods for the trade. Establishments primarily engaged in weaving wool carpets and rugs are classified in industry 2271, and those tufting wool carpets and rugs in industry 2272.

224 NARROW FABRICS AND OTHER SMALLWARES MILLS: COTTON, WOOL, SILK, AND MANMADE FIBER

2241 Narrow Fabrics and Other Smallwares Mills: Cotton, Wool, Silk, and Manmade Fiber.—Establishments primarily engaged in weaving or braiding fabrics 12 inches or narrower in width of cotton, wool, silk, and manmade fibers, including glass fibers. Establishments primarily engaged in producing fabric-covered elastic yarn or thread are also included in this industry.

225 KNITTING MILLS

This group includes three types of organizations which operate in the knitting mill industry: (1) The "integrated" mill which purchases materials, produces textiles and related articles within the establishment, and sells the finished products; (2) the "contract" or "commission" mill which processes materials owned by others; and (3) establishments commonly known as jobbers or converters of knit goods which perform the entrepreneurial functions of a manufacturing company, such as buying the raw material, designing and preparing samples, and assigning yarns to others for knitting products on their account.

2251 Women's Full Length and Knee Length Hosiery.—Establishments primarily engaged in knitting, dyeing, or finishing women's and misses' full length and knee length hosiery, both seamless and full-fashioned, and panty hose.

2252 Hosiery, Except Women's Full Length and Knee Length Hosiery.—Establishments primarily engaged in knitting, dyeing, or finishing hosiery except women's and misses' full length and knee length seamless and full-fashioned hosiery and panty hose.

2253 Knit Outerwear Mills.—Establishments primarily engaged in knitting outerwear from yarn or in manufacturing outerwear from knit fabric produced in the same establishment. Establishments primarily engaged in handknitting outerwear for the trade are included in this industry. Establishments primarily engaged in knitting gloves and mittens are classified in industry 2259, and those manufacturing outerwear from purchased knit fabric in SIC Major Group 23.

2254 Knit Underwear Mills.—Establishments primarily engaged in knitting underwear and nightwear from yarn or in manufacturing underwear and nightwear from knit fabric produced in the same establishment. Establishments primarily engaged in manufacturing underwear and nightwear from purchased knit fabric are classified in SIC Major Group 23.

2257 Circular Knit Fabric Mills.—Establishments primarily engaged in knitting circular (tubular) fabric or in dyeing or finishing circular (tubular) knit fabric. Establishments primarily engaged in knitting, dyeing, or finishing warp fabric are classified in industry 2258.

2258 Warp Knit Fabric Mills.—Establishments primarily engaged in knitting warp (flat) fabric or in dyeing or finishing warp (flat) knit fabric. Establishments primarily engaged in knitting, dyeing, or finishing circular fabric are classified in industry 2257.

2259 Knitting Mills, Not Elsewhere Classified.—Establishments primarily engaged in knitting gloves and other articles not elsewhere classified. Establishments primarily engaged in manufacturing woven or knit fabric gloves and mittens from purchased fabrics are classified in industry 2381.

226 DYEING AND FINISHING TEXTILES, EXCEPT WOOL FABRICS AND KNIT GOODS

2261 Finishers of Broadwoven Fabrics of Cotton.—Establishments primarily engaged in finishing purchased cotton broadwoven fabrics or finishing such fabrics on a commission basis. These finishing operations include bleaching, dyeing, printing (roller, screen, flock, plisse), and other mechanical finishing such as preshrinking, calendering, and napping. This industry also includes the shrinking and sponging of cloth for the trade, and chemical finishing for water repellency, fire resistance, and mildew proofing. Establishments primarily engaged in finishing wool broadwoven fabrics are classified in industry 2231; knit goods in group 225; and those coating or impregnating fabrics in industry 2295.

2262 **Finishers of Broadwoven Fabrics of Manmade Fiber and Silk.**—Establishments primarily engaged in finishing purchased manmade fiber and silk broadwoven fabrics or finishing such fabrics on a commission basis. These finishing operations include bleaching, dyeing, printing (roller, screen, flock, plisse), and other mechanical finishing such as preshrinking, calendering, and napping. Establishments primarily engaged in finishing wool broadwoven fabrics are classified in industry 2231; knit goods in group 225; and those coating or impregnating fabrics in industry 2295.

2269 **Finishers of Textiles, Not Elsewhere Classified.**—Establishments primarily engaged in dyeing and finishing textiles, not elsewhere classified, such as bleaching, dyeing, printing, and finishing of raw stock, yarn, braided goods, and narrow fabrics, except wool and knit fabrics. These establishments perform finishing operations on purchased textiles or on a commission basis.

227 FLOOR COVERING MILLS

2271 **Woven Carpets and Rugs.**—Establishments primarily engaged in weaving carpets and rugs from any textile yarn. Important products of this industry include Axminster, Wilton, velvet, and similar woven carpets and rugs; and woven automobile and aircraft floor coverings.

2272 **Tufted Carpets and Rugs.**—Establishments primarily engaged in tufting carpets and rugs from any textile fiber. Important products of this industry include tufted carpets, rugs, scatter rugs, and bathmats and bathmat sets except terry woven. Finishers of these products are also included in this industry.

2279 **Carpets and Rugs, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing rugs, carpets, art squares, floor mattings, needle punch carpeting, and doormats and mattings from twisted paper, grasses, reeds, coir, sisal, jute, or rags. Establishments primarily engaged in manufacturing hard-surface floor coverings, except rubber and cork, are classified in industry 3996.

228 YARN AND THREAD MILLS

2281 **Yarn Spinning Mills: Cotton, Manmade Fibers and Silk.**—Establishments primarily engaged in spinning yarn wholly or chiefly by weight of cotton, manmade fibers, or silk. Establishments primarily engaged in dyeing or finishing purchased yarns or finishing yarns on a commission basis are classified in industry 2269.

2282 **Yarn Texturizing, Throwing, Twisting, and Winding Mills: Cotton, Manmade Fibers and Silk.**—Establishments primarily engaged in texturizing, throwing, twisting, winding or spooling yarn wholly or chiefly by weight of cotton, manmade fibers, or silk. Establishments primarily engaged in dyeing or finishing purchased yarns or finishing yarns on a commission basis are classified in industry 2269.

2283 **Yarn Mills, Wool, Including Carpet and Rug Yarn.**—Establishments primarily engaged in spinning, twisting, winding, or spooling yarn (including carpet and rug yarn) wholly or chiefly by weight of wool, mohair, or similar animal fibers. Establishments primarily engaged in dyeing or finishing purchased wool yarn or finishing wool yarn on a commission basis are classified in industry 2231.

2284 **Thread Mills.**—Establishments primarily engaged in manufacturing thread from natural or manmade fiber except flax (industry 2299) and wool (industry 2283). Important products of this industry include sewing, crochet, darning, embroidery, tatting, handknitting, and other handicraft threads.

229 MISCELLANEOUS TEXTILE GOODS

2291 **Felt Goods, Except Woven Felts and Hats.**—Establishments primarily engaged in manufacturing pressed felt, regardless of fiber, by means of heat, moisture, and pressure; and those making punched felt for rugs, cushions, and other products from hair, jute, wool, or other fibers by the needle loom process. Establishments primarily engaged in manufacturing woven wool felts and wool haircloth are classified in industry 2231, those manufacturing felt hats in group 235, and those manufacturing needle punch carpeting in industry 2279.

2292 **Lace Goods.**—Establishments primarily engaged in manufacturing lace machine products, and those primarily engaged in dyeing and finishing lace goods. Establishments primarily engaged in manufacturing Schiffli machine embroideries are classified in industry 2397. Establishments primarily engaged in manufacturing knitted lace and netting are classified in industry 2258.

2293 **Paddings and Upholstery Filling.**—Establishments primarily engaged in manufacturing batting, padding, wadding, and filling for upholstery, pillows, quilts, and apparel, from curled hair, cotton-mill waste, moss, hemp tow, flax tow, kapok, and related materials. Establishments primarily engaged in manufacturing wood excelsior pads and wrappers are classified in industry 2429.

2294 **Processed Waste and Recovered Fibers and Flock.**—Establishments primarily engaged in processing textile mill waste for spinning, padding, batting, or other uses; in recovering textile fibers from clippings and rags; in cutting flock from waste, recovered fibers, or new fiber stock; and in manufacturing oakum and twisted jute packing. Establishments primarily engaged in cleaning and sorting wiping rags or waste are classified in industry 5093.

2295 **Coated Fabrics, Not Rubberized.**—Establishments primarily engaged in manufacturing coated and impregnated textiles and in the special finishing of textiles, such as varnishing and waxing. Establishments primarily engaged in rubberizing purchased fabrics are classified in industry 3069, and those primarily engaged in dyeing and finishing textiles in group 226.

2296 **Tire Cord and Fabric.**—Establishments primarily engaged in manufacturing cord and fabric for use in reinforcing rubber tires, industrial belting, fuel cells, and similar uses.

2297 **Nonwoven Fabrics.**—Establishments primarily engaged in manufacturing nonwoven fabrics (by bonding and/or interlocking of fibers) by mechanical, chemical, thermal, or solvent means or by combinations thereof. Establishments primarily engaged in producing fabrics by the wool felting process are classified in other industries in this major group.

2298 **Cordage and Twine.**—Establishments primarily engaged in manufacturing rope, cable, cordage, twine, and related products from abaca (Manila), sisal, henequen, hemp, cotton, paper, jute, flax, manmade fibers including glass, and other fibers.

2299 **Textile Goods, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing linen goods, jute goods except felt, and other textile goods not elsewhere classified. Establishments primarily engaged in processing textile fibers to prepare them for spinning, such as wool scouring and carbonizing and combing and converting tow to top, are also classified here. Establishments primarily engaged in manufacturing woven felts are classified in industry 2231, nonwoven felts in industry 2291, nonwoven textiles in industry 2297, and cordage and twine in industry 2298.

23 APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS

This major group, known as the cutting-up and needle trades, includes establishments producing clothing and fabricating products by cutting and sewing purchased woven or knit textile fabrics and related materials such as leather, rubberized fabrics, plastics, and furs.

Included in the apparel industries are three types of establishments: (1) The "regular" or inside factories, (2) contract factories, and (3) apparel jobbers. The regular factories perform all of the usual manufacturing functions within their own plant; the contract factories manufacture apparel from materials owned by others; and apparel jobbers perform the entrepreneurial functions of a manufacturing company, such as buying raw materials, designing and preparing samples, arranging for the manufacture of the garments from their materials, and selling of the finished apparel.

Custom tailors and dressmakers not operating on a factory basis are classified in industry 5699; establishments which purchase and resell finished garments but do not perform the functions of the apparel jobbers are classified in group 513.

231 MEN'S, YOUTHS', AND BOYS' SUITS, COATS, AND OVERCOATS

2311 **Men's, Youths', and Boys' Suits, Coats, and Overcoats.**—Establishments primarily engaged in manufacturing men's, youths', and boys' tailored suits, coats, and overcoats. Establishments primarily engaged in manufacturing uniforms (except athletic uniforms) are also included in this industry. Establishments primarily engaged in manufacturing men's work garments are classified in industry 2328.

232 MEN'S, YOUTHS', AND BOYS' FURNISHINGS, WORK CLOTHING, AND ALLIED GARMENTS

2321 **Men's, Youths', and Boys' Shirts (Except Work Shirts) and Nightwear.**—Establishments primarily

engaged in manufacturing men's, youths', and boys' shirts (including polo and sports shirts) and nightwear, cut and sewed from purchased woven or knit fabric. Establishments primarily engaged in manufacturing work shirts are classified in industry 2328. Knitting mills primarily engaged in manufacturing nightwear are classified in industry 2254, and outerwear in industry 2253.

2322 **Men's, Youths', and Boys' Underwear.**—Establishments primarily engaged in manufacturing men's, youths', and boys' underwear, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing underwear are classified in industry 2254.

2323 **Men's, Youths', and Boys' Neckwear.**—Establishments primarily engaged in manufacturing men's, youths', and boys' neckties, scarfs, and mufflers, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing neckties, scarfs, and mufflers are classified in industry 2253.

2327 **Men's, Youths', and Boys' Separate Trousers.**—Establishments primarily engaged in manufacturing men's, youths', and boys' separate trousers and slacks. Establishments primarily engaged in manufacturing complete suits are classified in industry 2311, and work pants and jeans in industry 2328.

2328 **Men's, Youths', and Boys' Work Clothing.**—Establishments primarily engaged in manufacturing men's, youths', and boys' work shirts, pants, jeans, and other work clothing and washable service apparel.

2329 **Men's, Youths', and Boys' Clothing, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing men's, youths', and boys' clothing not elsewhere classified. Establishments primarily engaged in manufacturing polo and sport shirts from purchased woven or knit materials are classified in industry 2321; separate trousers in industry 2327; work clothing in industry 2328; and leather and sheep lined garments in industry 2386. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

233 WOMEN'S, MISSES', AND JUNIORS' OUTERWEAR

2331 **Women's, Misses', and Juniors' Blouses, Waists, and Shirts.**—Establishments primarily engaged in manufacturing women's, misses', and juniors' blouses, waists, and shirts. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253. Establishments primarily engaged in manufacturing girls', children's, and infants' blouses, waists, and shirts are classified in industry 2361.

2335 **Women's, Misses', and Juniors' Dresses.**—Establishments primarily engaged in manufacturing women's, misses', and juniors' dresses, including ensemble dresses and pants dresses, whether sold by the piece or by the dozen. Establishments primarily engaged in manufacturing girls', children's, and infants' dresses are classified in industry 2361.

2337 **Women's, Misses', and Juniors' Suits, Skirts, and Coats.**—Establishments primarily engaged in manufacturing women's, misses', and juniors' suits, pantsuits, skirts, and coats except furcoats and raincoats. These garments are generally tailored and usually lined. Establishments primarily engaged in manufacturing fur garments are classified in industry 2371, raincoats in industry 2385, and knitting mills primarily engaged in manufacturing knit outerwear in industry 2253.

2339 **Women's, Misses', and Juniors' Outerwear, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing women's, misses', and juniors' outerwear, not elsewhere classified, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

234 WOMEN'S, MISSES', CHILDREN'S, AND INFANTS' UNDERGARMENTS

2341 **Women's, Misses', Children's, and Infants' Underwear and Nightwear.**—Establishments primarily engaged in manufacturing women's, misses', children's, and infants' underwear and nightwear, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing underwear and nightwear are classified in industry 2254.

2342 **Brassieres, Girdles, and Allied Garments.**—Establishments primarily engaged in manufacturing brassieres, girdles, corsets, corset accessories, and allied garments. Establishments primarily engaged in manufacturing surgical and orthopedic appliances are classified in industry 3842.

235 HATS, CAPS, AND MILLINERY

2351 Millinery.—Establishments primarily engaged in manufacturing women's, misses', children's, and infants' millinery. Establishments primarily engaged in manufacturing millinery braid and trimmings are classified in industry 2396.

2352 Hats and Caps, Except Millinery.—Establishments primarily engaged in manufacturing hats and caps (except millinery) and all hat bodies. Knitting mills primarily engaged in manufacturing caps are classified in industry 2253.

236 GIRLS', CHILDREN'S, AND INFANTS' OUTERWEAR

2361 Girls', Children's, and Infants' Dresses, Blouses, Waists, and Shirts.—Establishments primarily engaged in manufacturing girls', children's, and infants' dresses, blouses, waists, and shirts, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

2363 Girls', Children's, and Infants' Coats and Suits.—Establishments primarily engaged in manufacturing girls', children's, and infants' coats and suits, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

2369 Girls', Children's, and Infants' Outerwear, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing girls', children's, and infants' outerwear, not elsewhere classified, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

237 FUR GOODS

2371 Fur Goods.—Establishments primarily engaged in manufacturing furcoats, and other garments, accessories, and trimmings made of fur. Establishments primarily engaged in manufacturing sheep lined clothing are classified in industry 2386, and those engaged in dyeing and dressing of furs in industry 3999.

238 MISCELLANEOUS APPAREL AND ACCESSORIES

2381 Dress and Work Gloves, Except Knit and All-Leather.—Establishments primarily engaged in manufacturing dress, semidress, and work gloves and mittens, cut and sewed from purchased woven or knit fabric, or these materials combined with leather or plastic. Knitting mills primarily engaged in manufacturing gloves and mittens are classified in industry 2259, establishments primarily engaged in manufacturing leather gloves in industry 3151, those manufacturing rubber gloves in industry 3069, and plastic gloves in industry 3079.

2384 Robes and Dressing Gowns.—Establishments primarily engaged in manufacturing men's and women's robes and dressing gowns.

2385 Raincoats and Other Waterproof Outer Garments.—Establishments primarily engaged in manufacturing raincoats from purchased rubberized fabrics and other waterproof outer garments made from such material as pliofilm and cellophane. Establishments primarily engaged in manufacturing oiled fabric work garments are classified in industry 2328, and those manufacturing vulcanized rubber garments and garments made from rubberized fabrics produced in the same establishment are classified in industry 3069.

2386 Leather and Sheep Lined Clothing.—Establishments primarily engaged in manufacturing leather and sheep lined garments. Establishments primarily engaged in manufacturing leather gloves and mittens are classified in industry 3151, and fur garments in industry 2371.

2387 Apparel Belts.—Establishments primarily engaged in manufacturing men's and women's apparel belts, regardless of material.

2389 Apparel and Accessories, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing suspenders, garters, handkerchiefs, and other apparel, not elsewhere classified, such as academic caps and gowns, vestments, and theatrical costumes.

239 MISCELLANEOUS FABRICATED TEXTILE PRODUCTS

2391 Curtains and Draperies.—Establishments primarily engaged in manufacturing curtains and draperies from

purchased materials. Establishments primarily engaged in manufacturing lace curtains on lace machines are classified in industry 2292.

2392 **Housefurnishings, Except Curtains and Draperies.**—Establishments primarily engaged in manufacturing housefurnishings, such as blankets, bedspreads, sheets, tablecloths, and towels from purchased materials. Establishments primarily engaged in manufacturing curtains and draperies are classified in industry 2391. Establishments producing housefurnishings primarily of fabric woven at the same establishment are classified according to fiber in industries 2211, 2221, or 2231.

2393 **Textile Bags.**—Establishments primarily engaged in manufacturing shipping and other industrial bags from purchased fabric. Establishments primarily engaged in manufacturing plastic bags are classified in industry 2643; laundry, wardrobe, shoe, and other textile housefurnishing bags in industry 2392; and luggage in industry 3161.

2394 **Canvas and Related Products.**—Establishments primarily engaged in manufacturing awnings, tents, and related products from purchased fabric. Establishments primarily engaged in manufacturing canvas bags are classified in industry 2393.

2395 **Pleating, Decorative and Novelty Stitching, and Tucking for the Trade.**—Establishments primarily engaged in pleating, decorative and novelty stitching, and tucking for the trade. Establishments primarily engaged in performing similar services for individuals are classified in service industries. Establishments primarily engaged in manufacturing trimmings are classifled in industry 2396.

2396 **Automotive Trimmings, Apparel Findings, and Related Products.**—Establishments primarily engaged in manufacturing automotive trimmings and apparel findings and related products.

2397 **Schiffli Machine Embroideries.**—Establishments primarily engaged in manufacturing Schiffli machine embroideries.

2399 **Fabricated Textile Products, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing fabricated textile products not elsewhere classified.

24 LUMBER AND WOOD PRODUCTS, EXCEPT FURNITURE

This major group includes logging camps engaged in cutting timber and pulpwood; merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood mills and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged in manufacturing finished articles made entirely or mainly of wood or wood substitutes. Certain types of establishments producing wood products are classified elsewhere. For example, furniture and office and store fixtures are classified in SIC Major Group 25; musical instruments, toys, playground equipment, and caskets in SIC Major Group 39. Woodworking in connection with construction in the nature of reconditioning and repair or performed to individual order, is classified in nonmanufacturing industries.

241 LOGGING CAMPS AND LOGGING CONTRACTORS

2411 **Logging Camps and Logging Contractors.**—Logging camps and logging contractors primarily engaged in cutting timber and in producing rough, round, hewn, or riven primary forest or wood raw materials. Independent contractors engaged in estimating or trucking timber, but who perform no cutting operations, are classified in nonmanufacturing industries. Logging and woods operations conducted in combination with sawmills, pulpmills, or other converting establishments, and not separately reported, are classified in their respective industry groups; namely, with sawmills in SIC group 242, veneer and plywood mills in SIC group 243, pulpmills in SIC Major Group 26, and charcoal and wood distillation plants in SIC group 286. Establishments primarily engaged in the collection of bark, sap, gum, and other forest byproducts are classified in SIC Major Group 08.

242 SAWMILLS AND PLANING MILLS

2421 **Sawmills and Planing Mills, General.**—Establishments primarily engaged in sawing rough lumber and timber from logs and bolts, or resawing cants and flitches into lumber, including box lumber and softwood cut stock; planing mills combined with sawmills; and separately operated planing mills which are engaged primarily in producing surfaced

lumber and standard workings or patterns of lumber. This industry includes establishments primarily engaged in sawing lath and railroad ties and in producing tobacco hogshead stock, wood chips, and snow fence lath. Establishments primarily engaged in manufacturing box shook or boxes are classified in SIC group 244; sash, doors, wood molding, window and door frames, and other fabricated millwork in SIC group 243; and hardwood dimension and flooring in industry 2426. Logging camps combined with sawmills, when not separately reported, are included in this industry.

2426 **Hardwood Dimension and Flooring Mills.**—Establishments primarily engaged in manufacturing hardwood dimension lumber and workings therefrom; other hardwood dimension, semifabricated or ready for assembly; hardwood flooring; and wood frames for household furniture. Establishments primarily engaged in manufacturing stairwork, molding, and trim are classified in industry 2431; and those manufacturing textile machinery bobbins, picker sticks, and shuttles in industry 3552.

2429 **Special Product Sawmills, Not Elsewhere Classified.**—Mills primarily engaged in manufacturing excelsior, wood shingles, and cooperage stock; and in sawing special products not elsewhere classified.

243 MILLWORK, VENEER, PLYWOOD, AND STRUCTURAL WOOD MEMBERS

2431 **Millwork.**—Establishments primarily engaged in manufacturing fabricated millwork. Planing mills primarily engaged in producing millwork are included in this industry, but planing mills primarily producing standard workings or patterns of lumber are classified in industry 2421. Establishments primarily manufacturing wood kitchen cabinets and bathroom vanities are classified in industry 2434.

2434 **Wood Kitchen Cabinets.**—Establishments primarily engaged in manufacturing wood kitchen cabinets and wood bathroom vanities.

2435 **Hardwood Veneer and Plywood.**—Establishments primarily engaged in producing commercial hardwood veneer, either face or technical, and those primarily engaged in manufacturing commercial plywood or prefinished hardwood plywood. This includes nonwood backed or faced veneer and nonwood faced plywood from veneer produced in the same establishment or from purchased veneer. Establishments primarily engaged in the production of veneer which is used in the same establishment for the manufacture of end products such as fruit and vegetable baskets and wood boxes are classified in industries 2441 and 2449.

2436 **Softwood Veneer and Plywood.**—Establishments primarily engaged in producing commercial softwood veneer and plywood from veneer produced in the same establishment or from purchased veneer. Establishments primarily engaged in producing commercial hardwood veneer and plywood are classified in industry 2435. Establishments primarily engaged in the production of veneer which is used in the same establishment for the manufacture of end products such as fruit and vegetable baskets and wood boxes are classified in industries 2441 and 2449.

2439 **Structural Wood Members, Not Elsewhere Classified.**—Establishments primarily engaged in producing laminated or fabricated trusses, arches, and other structural members of lumber. Establishments primarily engaged in fabrication on the site of construction are classified in Division C, Construction. Establishments primarily engaged in producing prefabricated wooden buildings, sections, and panels are classified in industry 2452.

244 WOOD CONTAINERS

2441 **Nailed and Lock Corner Wood Boxes and Shook.**—Establishments primarily engaged in manufacturing nailed and lock corner wood boxes (lumber or plywood) and those which also may produce shook for nailed and lock corner boxes.

2448 **Wood Pallets and Skids.**—Establishments primarily engaged in manufacturing wood and wood-metal combination pallets and skids.

2449 **Wood Containers, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing wood containers, not elsewhere classified, such as cooperage, wirebound boxes and crates, and other veneer and plywood containers. Establishments primarily engaged in manufacturing tobacco hogshead stock are classified in industry 2421, and those manufacturing cooperage stock in industry 2429.

245 WOOD BUILDINGS AND MOBILE HOMES

2451 Mobile Homes.—Establishments primarily engaged in manufacturing mobile homes. These mobile homes are generally over 35 feet long, at least 8 feet wide, do not have facilities for storage of water or waste, and are equipped with wheels. These products may also have nonresidential uses such as classrooms or offices. Trailers that are generally 35 feet long or less, 8 feet wide or less, and with self-contained facilities are classified in industry 3792. Portable buildings not equipped with wheels are classified in industry 2452.

2452 Prefabricated Wood Buildings and Components.—Establishments primarily engaged in manufacturing prefabricated wood buildings, sections, and panels. Establishments primarily engaged in fabricating buildings on the site of construction are classified in Division C, Construction.

249 MISCELLANEOUS WOOD PRODUCTS

2491 Wood Preserving.—Establishments primarily engaged in treating wood, sawed or planed in other establishments, with creosote or other preservatives to prevent decay and to protect against fire and insects. This industry also includes the cutting, treating, and selling of poles, posts, and piling, but establishments primarily engaged in manufacturing other wood products, which they may also treat with preservatives, are not included.

2492 Particleboard.—Establishments primarily engaged in manufacturing wood panel products from small wood particles. This includes preparation of small particles of wood, drying, mixing with a synthetic resin binder, and compressing. Pressing may take place in hydraulic presses with heated platens or by extrusion.

2499 Wood Products, Not Elsewhere Classified.—Establishments primarily engaged in turning and shaping wood and manufacturing miscellaneous wood products, not elsewhere classified, from rattan, reed, splint, straw, veneer, veneer strips, wicker, and willow. This industry also includes establishments manufacturing lasts and related products, cork products, hardboard, and wood or metal mirror and picture frames. Establishments primarily engaged in manufacturing particleboard are classified in industry 2492, and those manufacturing pallets and skids in industry 2448.

25 FURNITURE AND FIXTURES

This major group includes establishments engaged in manufacturing household, office, public building, and restaurant furniture; and office and store fixtures. Establishments primarily engaged in the production of millwork are classified in industry 2431; wood kitchen cabinets in industry 2434; cut stone and concrete furniture in SIC Major Group 32; laboratory and hospital furniture in SIC Major Group 38; beauty and barber shop furniture in SIC Major Group 39; and woodworking to individual order or in the nature of reconditioning and repair in nonmanufacturing industries.

251 HOUSEHOLD FURNITURE

2511 Wood Household Furniture, Except Upholstered.—Establishments primarily engaged in manufacturing wood household furniture commonly used in dwellings. This industry also includes establishments manufacturing camp furniture. Establishments primarily engaged in manufacturing upholstered furniture are classified in industry 2512; reed and rattan furniture in industry 2519; television, radio, phonograph, and sewing machine cabinets in industry 2517; and kitchen cabinets and bathroom vanities in industry 2434.

2512 Wood Household Furniture, Upholstered.—Establishments primarily engaged in manufacturing upholstered furniture on wood frames. Shops primarily engaged in reupholstering furniture, or upholstering frames to individual order, are classified in nonmanufacturing industries. Establishments primarily engaged in manufacturing dual-purpose sleep furniture, such as studio couches, sofa beds, and chair beds, are classified in industry 2515, regardless of the material used in the frame. Establishments primarily engaged in manufacturing wood frames for upholstered furniture are classified in industry 2426.

2514 Metal Household Furniture.—Establishments primarily engaged in manufacturing padded or plain metal household furniture of a type commonly used in dwellings. Establishments primarily engaged in manufacturing dual-purpose sleep furniture, such as studio couches, sofa beds, and chair beds, are classified in industry 2515, regardless of the material used in the frame.

2515 **Mattresses and Bedsprings.**—Establishments primarily engaged in manufacturing innerspring mattresses, box spring mattresses, and noninnerspring mattresses containing felt, form rubber, urethane, hair, or any other filling material; and assembled wire springs (fabric, coil, or box) for use on beds, couches, and cots. This industry also includes establishments primarily engaged in manufacturing dual-purpose sleep furniture, such as studio couches, sofa beds, and chair beds, regardless of the material used in the frame. Establishments primarily engaged in manufacturing automobile seats and backs are classified in industry 2531; individual wire springs in industry 3495; and paddings and upholstery filling in industry 2293.

2517 **Wood Television, Radio, Phonograph, and Sewing Machine Cabinets.**—Establishments primarily engaged in manufacturing wood cabinets for radios, television sets, phonographs, and sewing machines.

2519 **Household Furniture, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing reed, rattan, and other wicker furniture, plastics and fiberglass household furniture and cabinets, and household furniture not elsewhere classified.

252 OFFICE FURNITURE

2521 **Wood Office Furniture.**—Establishments primarily engaged in manufacturing wood office furniture, whether padded, upholstered, or plain.

2522 **Metal Office Furniture.**—Establishments primarily engaged in manufacturing metal office furniture, whether padded or plain. Establishments primarily engaged in manufacturing safes and vaults are classified in industry 3499.

253 PUBLIC BUILDING AND RELATED FURNITURE

2531 **Public Building and Related Furniture.**—Establishments primarily engaged in manufacturing furniture for schools, theaters, assembly halls, churches, and libraries. Establishments primarily engaged in manufacturing seats for public conveyances, as well as seats for automobiles and aircraft, are included in this industry. Establishments primarily engaged in manufacturing stone furniture are classified in industry 3281, and concrete furniture in industry 3272.

254 PARTITIONS, SHELVING, LOCKERS, AND OFFICE AND STORE FIXTURES

2541 **Wood Partitions, Shelving, Lockers, and Office and Store Fixtures.**—Establishments primarily engaged in manufacturing wood shelving, lockers, office and store fixtures, prefabricated partitions, plastic laminated fixture tops, and related fabricated products. Establishments primarily engaged in manufacturing refrigerated cabinets, show cases, and display cases are classified in industry 3585, and safes and vaults in industry 3499.

2542 **Metal Partitions, Shelving, Lockers, and Office and Store Fixtures.**—Establishments primarily engaged in manufacturing metal shelving, storage racks, lockers, office and store fixtures, prefabricated partitions, and related fabricated products. Establishments primarily engaged in manufacturing refrigerated cabinets, show cases, and display cases are classified in industry 3585, and safes and vaults in industry 3499.

259 MISCELLANEOUS FURNITURE AND FIXTURES

2591 **Drapery Hardware and Window Blinds and Shades.**—Establishments primarily engaged in manufacturing curtain and drapery rods, poles, and fixtures; and venetian blinds and other window blinds and shades, regardless of the materials used, except canvas shades and awnings (industry 2394).

2599 **Furniture and Fixtures, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing furniture and fixtures, not elsewhere classified, including furniture specially designed for use in restaurants, bars, cafeterias, bowling establishments, and ships.

26 PAPER AND ALLIED PRODUCTS

This major group includes the manufacture of pulps from wood and other cellulose fibers, and from rags; the manufacture of paper and paperboard; and the manufacture of paper and paperboard into converted products such as paper coated off the paper machine, paper bags, paper boxes and envelopes. Certain types of converted paper products are classified elsewhere, such as abrasive paper in industry 3291, carbon paper in industry 3955, and photosensitized and blueprint paper in industry 3861.

261 PULPMILLS

2611 Pulpmills.—Establishments primarily engaged in manufacturing pulp from wood or from other materials such as rags, linters, wastepaper, and straw. Logging camps operated by pulpmills, and not separately reported, are also included in this industry. Establishments primarily engaged in cutting pulpwood are classified in industry 2411; and pulpmills combined with papermills or paperboard mills, and not separately reported, are classified with the latter in industries 2621 and 2631, respectively.

262 PAPERMILLS, EXCEPT BUILDING PAPERMILLS

2621 Papermills, Except Building Papermills.—Establishments primarily engaged in manufacturing paper (except building paper—industry 2661) from woodpulp and other fibers, and which may also manufacture converted paper products. Pulpmills combined with papermills, and not separately reported, are also included in this industry; where separately reported, they are classified in industry 2611. Establishments primarily engaged in manufacturing converted paper products from purchased paper stock are classified in SIC groups 264 or 265.

263 PAPERBOARD MILLS

2631 Paperboard Mills.—Establishments primarily engaged in manufacturing paperboard, including paperboard coated on the paperboard machine, from woodpulp and other fibers; and which may also manufacture converted paperboard products. Pulpmills combined with paperboard mills, and not separately reported, are also included in this industry; where separately reported, they are classified in industry 2611. Establishments primarily engaged in manufacturing converted paperboard products from purchased paperboard are classified in SIC groups 264 or 265, and building board in industry 2661.

264 CONVERTED PAPER AND PAPERBOARD PRODUCTS, EXCEPT CONTAINERS AND BOXES

2641 Paper Coating and Glazing.—Establishments primarily engaged in manufacturing coated, glazed, or varnished paper from purchased paper. Also included are establishments primarily manufacturing pressure sensitive tape with backing of any material other than rubber. Establishments primarily engaged in manufacturing carbon paper are classified in industry 3955, and photographic and blueprint paper in industry 3861.

2642 Envelopes.—Establishments primarily engaged in manufacturing envelopes of any description from purchased paper and paperboard. Establishments primarily engaged in manufacturing papeteries (boxed stationery) are classified in industry 2648.

2643 Bags, Except Textile Bags.—Establishments primarily engaged in manufacturing bags from purchased paper, cellophane, acetate, polyethylene, polypropylene, pliofilm, foil, and similar sheet or film materials.

2645 Die-Cut Paper and Paperboard and Cardboard.—Establishments primarily engaged in diecutting purchased paper and paperboard; and in manufacturing cardboard by laminating, lining, or surface coating paperboard. Establishments primarily engaged in laminating building paper or building board from purchased paper or board are classified in industry 2649.

2646 Pressed and Molded Pulp Goods.—Establishments primarily engaged in manufacturing all kinds of pressed and molded pulp goods, including papier-mache articles other than statuary and art goods (industry 3299). Establishments primarily engaged in manufacturing plates and utensils from paper are classified in industry 2654.

2647 Sanitary Paper Products.—Establishments primarily engaged in manufacturing, from purchased paper, sanitary paper products, such as facial tissues and handkerchiefs, table napkins, toilet paper, towels, disposable diapers, and sanitary napkins and tampons.

2648 Stationery, Tablets, and Related Products.—Establishments primarily engaged in manufacturing stationery, tablets, looseleaf fillers, and related items from purchased paper. Establishments primarily engaged in manufacturing envelopes are classified in industry 2642.

2649 Converted Paper and Paperboard Products, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing from purchased paper or paperboard miscellaneous converted paper or paperboard

products not elsewhere classified. Establishments primarily engaged in manufacturing sanitary paper products from purchased paper are classified in industry 2647. The paper stock used for wallpaper, called "hanging paper," is classified in industry 2621. Establishments primarily engaged in manufacturing stationery, tablets, and related products are classified in industry 2648.

265 PAPERBOARD CONTAINERS AND BOXES

2651 Folding Paperboard Boxes.—Establishments primarily engaged in manufacturing folding paperboard boxes from purchased paperboard.

2652 Set-up Paperboard Boxes.—Establishments primarily engaged in manufacturing set-up paperboard boxes from purchased paperboard.

2653 Corrugated and Solid Fiber Boxes.—Establishments primarily engaged in manufacturing corrugated and solid fiber boxes and related products from purchased paperboard of fiber stock. Important products of this industry include corrugated and solid fiberboard boxes, pads, partitions, display items, pallets, single-face products, and corrugated sheets.

2654 Sanitary Food Containers.—Establishments primarily engaged in manufacturing food containers from special food board. Important products of this industry include fluid milk containers; folding paraffined cartons for butter, margarine, and shortening; ice cream containers; frozen food containers; liquid tight containers; round nested food containers; paper cups for hot or cold drinks; pails for food and ice cream; and stamped plates, dishes, spoons, and similar products. Establishments primarily engaged in manufacturing similar items of plastics materials are classified in industry 3079.

2655 Fiber Cans, Tubes, Drums, and Similar Products.—Establishments primarily engaged in manufacturing from purchased materials fiber cans, cones, drums, similar products with or without metal ends, and vulcanized fiber boxes.

266 BUILDING PAPER AND BUILDING BOARD MILLS

2661 Building Paper and Building Board Mills.—Establishments primarily engaged in manufacturing building paper and building board from woodpulp and other fibrous materials. Pulpmills combined with building paper and building board mills, and not separately reported, are also included in this industry; where separately reported, they are classified in industry 2611.

27 PRINTING, PUBLISHING, AND ALLIED INDUSTRIES

This major group includes establishments engaged in printing by one or more of the common processes, such as letterpress, lithography, gravure, or screen; and those establishments which perform services for the printing trade, such as bookbinding, typesetting, engraving, photoengraving, and electrotyping. This major group also includes establishments engaged in publishing newspapers, books, and periodicals, regardless of whether or not they do their own printing. News syndicates are classified in service industries, (industry 7351) and textile printing and finishing in SIC Major Group 22.

271 NEWSPAPERS: PUBLISHING, PUBLISHING AND PRINTING

2711 Newspapers: Publishing, Publishing and Printing.—Establishments primarily engaged in publishing newspapers or in publishing and printing newspapers. These establishments carry on the various operations necessary for issuing newspapers, including the gathering of news and the preparation of editorials and advertisements, but may or may not perform their own printing. Commercial printing is frequently carried on by establishments engaged in publishing and printing newspapers, but, even though the commercial printing may be of major importance, such establishments are included in this industry. Establishments not engaged in publishing newspapers, but which print or lithograph newspapers for publishers, are classified in SIC group 275. News syndicates are classified in service industries (industry 7351).

272 PERIODICALS: PUBLISHING, PUBLISHING AND PRINTING

2721 Periodicals: Publishing, Publishing and Printing.—Establishments primarily engaged in publishing periodicals or in preparing, publishing, and printing

periodicals. These establishments carry on the various operations necessary for issuing periodicals, but may or may not perform their own printing. Establishments not engaged in publishing periodicals, but which print or lithograph periodicals for publishers, are classified in SIC group 275.

273 BOOKS

2731 Books: Publishing, Publishing and Printing.—Establishments primarily engaged in publishing only, or in publishing and printing books and pamphlets. Establishments primarily engaged in printing or in printing and binding (but not publishing) books and pamphlets are classified in industry 2732.

2732 Book Printing.—Establishments primarily engaged in printing only or in printing and binding books and pamphlets, but not engaged in publishing. Establishments primarily engaged in publishing, or in publishing and printing books and pamphlets, are classified in industry 2731. Establishments engaged in both printing and binding books, but primarily binding books printed elsewhere, are classified in industry 2789.

274 MISCELLANEOUS PUBLISHING

2741 Miscellaneous Publishing.—Establishments primarily engaged in miscellaneous publishing activities, not elsewhere classified, whether or not engaged in printing. Establishments primarily engaged in offering financial, credit, or other business services, and which may publish directories as part of this service, are not included in this industry but are classified in service industries.

275 COMMERCIAL PRINTING

2751 Commercial Printing, Letterpress and Screen.—Establishments primarily engaged in letterpress and screen commercial or job printing, including flexographic. This industry includes general printing shops, as well as shops specializing in printing newspapers and periodicals for others, and those which specialize in screen printing. Establishments primarily engaged in printing books, without publishing, are classified in industry 2732, and greeting cards in industry 2771. Establishments primarily engaged in printing from lithographic plates are classified in industry 2752, and gravure and rotogravure printing in industry 2754.

2752 Commercial Printing, Lithographic.—Establishments primarily engaged in printing by the lithographic process. The greater part of the work in this industry is performed on a job or custom basis; but, in some cases, lithographed calendars, maps, posters, decalcomanias, etc., are made for sale. Offset printing, photo-offset printing, and photolithographing are also included in this industry. Establishments primarily engaged in lithographing books and pamphlets, without publishing, are classified in industry 2732, and greeting cards in industry 2771. Establishments primarily engaged in preparing lithographic plates and in related services are classified in industry 2795.

2753 Engraving and Plate Printing.—Establishments primarily engaged in engraving and etching steel, copper, wood, or rubber plates; in using these plates to print stationery, visiting and other cards, invitations, maps, etc.; and in making woodcuts for use in printing illustrations, posters, etc. Engraving for purposes other than printing is classified in industry 3479.

2754 Commercial Printing, Gravure.—Establishments primarily engaged in gravure printing.

276 MANIFOLD BUSINESS FORMS

2761 Manifold Business Forms.—Establishments primarily engaged in designing and printing, by any process, special forms for use in the operation of a business, in single and multiple sets, including carbonized or interleaved with carbon or otherwise processed for multiple reproduction.

277 GREETING CARD PUBLISHING

2771 Greeting Card Publishing.—Establishments primarily engaged in the designing, publishing, and printing by any process of greeting cards for all occasions.

278 BLANKBOOKS, LOOSELEAF BINDERS, AND BOOKBINDING AND RELATED WORK

2782 Blankbooks, Looseleaf Binders, and Devices.—Establishments primarily engaged in manufacturing blankbooks, looseleaf devices, and library binders; and in ruling paper.

2789 Bookbinding and Related Work.—Establishments primarily engaged in edition, trade, job, and library bookbinding; in book or paper bronzing, gilding, and edging; in map and sample mounting; and other services related to bookbinding. Establishments primarily binding books printed elsewhere are classified in this industry, but those primarily binding books printed in the same establishment are classified in SIC group 273.

279 SERVICE INDUSTRIES FOR THE PRINTING TRADE

2791 Typesetting.—Establishments primarily engaged in typesetting for the trade, including advertisement typesetting.

2793 Photoengraving.—Establishments primarily engaged in preparing photoengraved plates (halftones and linecuts). These establishments do not, as a rule, print from the plates which they make, but prepare them for use by others.

2794 Electrotyping and Stereotyping.—Establishments primarily engaged in preparing electrotype and stereotype plates. These establishments do not, as a rule, print from the plates which they make, but prepare them for use by others.

2795 Lithographic Platemaking and Related Services.—Establishments primarily engaged in making lithographic plates and positives or negatives from which lithographic plates are made, and in related services. Establishments primarily engaged in printing by the lithographic process are classified in industry 2752.

28 CHEMICALS AND ALLIED PRODUCTS

This major group includes establishments producing basic chemical and establishments manufacturing products by predominantly chemical processes. Establishments classified in this major group manufacture three general classes of products: (1) Basic chemicals such as acids, alkalies, salts, and organic chemicals; (2) chemical products to be used in further manufacture such as synthetic fibers, plastics materials, dry colors, and pigments; (3) finished chemical products to be used for ultimate consumption such as drugs, cosmetics, and soaps; or to be used as materials or supplies in other industries, such as paints, fertilizers, and explosives. The mining of natural rock salt is classified in mining industries. Establishments primarily engaged in manufacturing nonferrous metals and high-percentage ferroalloys are classified in SIC Major Group 33; silicon carbide in SIC Major Group 32; baking powder, other leavening compounds, and starches in SIC Major Group 20; and artists' colors in SIC Major Group 39. Establishments primarily engaged in packaging, repackaging, and bottling of purchased chemical products, but not engaged in manufacturing chemicals and allied products, are classified in trade industries.

281 INDUSTRIAL INORGANIC CHEMICALS

This group includes establishments primarily engaged in manufacturing basic industrial inorganic chemicals. Establishments primarily engaged in manufacturing formulated agricultural pesticides are classified in industry 2879; medicinal chemicals, drugs, and medicines in industry 2833; and soap and cosmetics in SIC group 284.

2812 Alkalies and Chlorine.—Establishments primarily engaged in manufacturing alkalies and chlorine.

2813 Industrial Gases.—Establishments primarily engaged in manufacturing gases for sale in compressed, liquid, and solid forms. Establishments primarily engaged in manufacturing fluorine and sulfur dioxide are classified in industry 2819; household ammonia in industry 2842, and other ammonia in industry 2873; and cholorine in industry 2812. Distributors of industrial gases and establishments primarily engaged in shipping liquid oxygen are classified in trade.

2816 Inorganic Pigments.—Establishments primarily engaged in manufacturing inorganic pigments. Important products of this industry include black pigments (except carbon black, industry 2895), white pigments, and color pigments. Organic color pigments, except animal black and bone black, are classified in industry 2865.

2819 Industrial Inorganic Chemicals, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing industrial inorganic chemicals not elsewhere classified. Important products of this industry include inorganic salts of sodium (excluding refined sodium chloride), potassium, aluminum, calcium, chromium, magnesium, mercury, nickel, silver, tin; inorganic compounds such as alums, calcium carbide, hydrogen peroxide, sodium silicate,

ammonia compounds (except fertilizers), rare earth metal salts and elemental bromine, fluorine, iodine, phosphorus, and alkali metals (sodium, potassium, lithium, etc.). Establishments primarily engaged in mining, milling, or otherwise preparing natural potassium, sodium, or boron compounds (other than common salt) are classified in industry 1474. Establishments primarily engaged in manufacturing household bleaches are classified in industry 2842; phosphoric acid in industry 2874; and nitric acid, anhydrous ammonia, and other nitrogenous fertilizer materials in industry 2873.

282 PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MANMADE FIBERS, EXCEPT GLASS

This group includes chemical establishments primarily engaged in manufacturing plastics materials and synthetic resins, synthetic rubbers, and cellulosic and manmade organic fibers. Establishments primarily engaged in the manufacture of rubber products and those primarily engaged in the compounding of purchased resins or the fabrication of plastics sheets, rods, and miscellaneous plastics products are classified in SIC Major Group 30; and textile mills primarily engaged in throwing, spinning, weaving, or knitting textile products from manufactured fibers are classified in SIC Major Group 22.

2821 **Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers.**—Establishments primarily engaged in manufacturing synthetic resins, plastics materials, and nonvulcanizable elastomers. Important products of this industry include: Cellulose plastic materials; phenolic and other tar acid resins; urea and melamine resins; vinyl resins; styrene resins; alkyd resins; acrylic resins; polyethylene resins; polypropylene resins; rosin modified resins; coumarone-indene and petroleum polymer resins; and miscellaneous resins including polyamide resins, silicones, polyisobutylenes, polyesters, polycarbonate resins, acetal resins, fluorohydrocarbon resins; and casein plastics. Establishments primarily engaged in manufacturing fabricated plastics products or plastics film, sheet, rod, nontextile monofilaments and regenerated cellulose products, and vulcanized fiber are classified in industry 3079, whether from purchased resins or from resins produced in the same plant. Establishments primarily engaged in compounding purchased resins are also classified in industry 3079. Establishments primarily manufacturing adhesives are classified in industry 2891.

2822 **Synthetic Rubber (Vulcanizable Elastomers).**—Establishments primarily engaged in manufacturing synthetic rubber by polymerization or copolymerization. An elastomer for the purpose of this classification is a rubber-like material capable of vulcanization, such as copolymers of butadiene and styrene, or butadiene and acrylonitrile, polybutadienes, chloroprene rubbers, and isobutylene-isoprene copolymers. Butadiene copolymers containing less than 50% butadiene are classified in industry 2821. Natural chlorinated rubbers and cyclized rubbers are considered as semifinished products and are classified in industry 3069.

2823 **Cellulosic Manmade Fibers.**—Establishments primarily engaged in manufacturing cellulosic fibers (including cellulose acetate and regenerated cellulose such as rayon by the viscose or cuprammonium process) in the form of monofilament, yarn, staple, or tow suitable for further manufacturing on spindles, looms, knitting machines, or other textile processing equipment. Establishments primarily engaged in manufacturing textile glass fibers are classified in industry 3229.

2824 **Synthetic Organic Fibers, Except Cellulosic.**—Establishments primarily engaged in manufacturing synthetic organic fibers, except cellulosic (including those of regenerated proteins, and of polymers or copolymers of such components as vinyl chloride, vinylidene chloride, linear esters, vinyl alcohols, acrylonitrile, ethylenes, amides, and related polymeric materials) in the form of monofilament, yarn, staple, or tow suitable for further manufacturing on spindles, looms, knitting machines, or other textile processing equipment. Establishments primarily engaged in manufacturing textile glass fibers are classified in industry 3229.

283 DRUGS

This group includes establishments primarily engaged in manufacturing, fabricating, or processing medicinal chemicals and pharmaceutical products. Also included in this group are establishments primarily engaged in the grading, grinding, and milling of botanicals.

2831 **Biological Products.**—Establishments primarily engaged in the production of bacterial and virus vaccine, toxoids and analogous products (such as allergenic extracts), serums, plasmas, and other blood derivatives for human or veterinary use.

2833 **Medicinal Chemicals and Botanical Products.**—Establishments primarily engaged in (1) manufacturing bulk organic and inorganic medicinal chemicals and their derivatives; and (2) processing (grading, grinding, and milling) bulk botanical drugs and herbs. Establishments primarily engaged in manufacturing agar-agar and similar products of natural origin, endocrine products, manufacturing or isolating basic vitamins, and isolating active medicinal principals such as alkaloids from botanical drugs and herbs are also included in this industry.

2834 **Pharmaceutical Preparations.**—Establishments primarily engaged in manufacturing, fabricating, or processing drugs in pharmaceutical preparations for human or veterinary use. The greater part of the products of these establishments are finished in the form intended for final consumption, such as ampoules, tablets, capsules, vials, ointments, medicinal powders, solutions, and suspensions. Products of this industry consist of two important lines, namely: (1) Pharmaceutical preparations promoted primarily to the dental, medical, or veterinary professions; and (2) pharmaceutical preparations promoted primarily to the public.

284 SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS

This group includes establishments primarily engaged in manufacturing soap and other detergents and in producing glycerin from vegetable and animal fats and oils; specialty cleaning, polishing, and sanitation preparations; and surface active preparations used as emulsifiers, wetting agents, and finishing agents, including sulfonated oils; and perfumes, cosmetics, and other toilet preparations.

2841 **Soap and Other Detergents, Except Specialty Cleaners.**—Establishments primarily engaged in manufacturing soap, synthetic organic detergents, inorganic alkaline detergents, or any combination thereof, and establishments producing crude and refined glycerin from vegetable and animal fats and oils. Establishments primarily engaged in manufacturing shampoos or shaving products, whether from soap or synthetic detergents, are classified in industry 2844; and synthetic glycerin in industry 2869.

2842 **Specialty Cleaning, Polishing, and Sanitation Preparations.**—Establishments primarily engaged in manufacturing furniture, metal, and other polishes; waxes and dressings for fabricated leather and other materials; household, institutional and industrial plant disinfectants, deodorants; dry cleaning preparations; household bleaches; and other sanitation preparations. Establishments primarily manufacturing household pesticidal preparations are classified in industry 2879.

2843 **Surface Active Agents, Finishing Agents, Sulfonated Oils and Assistants.**—Establishments primarily engaged in producing surface active preparations for use as wetting agents, emulsifiers, and penetrants. Establishments engaged in producing sulfonated oils and fats and related products are also included.

2844 **Perfumes, Cosmetics, and Other Toilet Preparations.**—Establishments primarily engaged in manufacturing perfumes (natural and synthetic), cosmetics, and other toilet preparations. This industry also includes establishments primarily engaged in blending and compounding perfume bases; and those manufacturing shampoos and shaving products, whether from soap or synthetic detergents. Establishments primarily engaged in manufacturing synthetic perfume and flavoring materials are classified in industry 2869, and essential oils in industry 2899.

285 PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS

2851 **Paints, Varnishes, Lacquers, Enamels, and Allied Products.**—Establishments primarily engaged in manufacturing paints (in paste and ready-mixed form); varnishes; lacquers; enamels and shellac; putties, wood fillers and sealers; paint and varnish removers; and paint brush cleaners and allied paint products. Establishments primarily engaged in manufacturing carbon black are classified in industry 2895; boneblack, lampblack, and inorganic color pigments in industry 2816; organic color pigments in industry 2865; plastics materials in industry 2821; printing ink in industry 2893; calking compounds and sealants in industry 2891; and artists' paints in industry 3952.

286 INDUSTRIAL ORGANIC CHEMICALS

Establishments primarily engaged in manufacturing industrial organic chemicals. Important products of this group include: (1) Noncyclic organic chemicals such as

acetic, chloroacetic, adipic, formic, oxalic and tartaric acids and their metallic salts; chloral, formaldehyde, and methylamine; (2) solvents such as amyl, butyl, and ethyl alcohols; methanol; amyl, butyl and ethyl acetates; ethel ether, ethylene glycol ether and diethylene glycol ether; acetone, carbon disulfide, and chlorinated solvents such as carbon tetrachloride, perchloroethylene and trichloroethylene; (3) polyhydric alcohols such as ethylene glycol, sorbitol, pentaerythritol, synthetic glycerin; (4) synthetic perfume and flavoring materials such as coumarin, methyl salicylate, saccharin, citral, citronellal, synthetic geraniol, ionone, terpineol, and synthetic vanillin; (5) rubber processing chemicals such as accelerators and antioxidants, both cyclic and acyclic; (6) plasticizers, both cyclic and acyclic, such as esters of phosphoric acid, phthalic anhydride, adipic acid, lauric acid, oleic acid, sebacic acid, and stearic acid; (7) synthetic tanning agents such as naphthalene sulfonic acid condensates, (8) chemical warfare gases; (9) esters, amines, etc., of polyhydric alcohols and fatty and other acids; (10) cyclic crudes and intermediates; (11) cyclic dyes and organic pigments; and (12) natural gum and wood chemicals. Establishments primarily engaged in manufacturing plastics materials and nonvulcanizable elastomers are classified in industry 2821; synthetic rubber in industry 2822; essential oils in industry 2899; rayon and other synthetic fibers in industries 2823 and 2824; specialty cleaning, polishing and sanitation preparations in industry 2842; paints in industry 2851; and inorganic pigments in industry 2816. Distilleries engaged in the manufacture of grain alcohol for beverage purposes are classified in industry 2085.

2861 **Gum and Wood Chemicals.**—Establishments primarily engaged in manufacturing hardwood and softwood distillation products, wood and gum naval stores, charcoal, natural dyestuffs, and natural tanning materials. Establishments primarily engaged in manufacturing synthetic tanning materials and synthetic organic chemicals are classified in industry 2869, and synthetic organic dyes in industry 2865.

2865 **Cyclic (Coal Tar) Crudes, and Cyclic Intermediates, Dyes, and Organic Pigments (Lakes and Toners).**—Establishments primarily engaged in manufacturing coal tar crudes and cyclic organic intermediates, dyes, color lakes, and toners. Important products of this industry include: (1) Derivatives of benzene, toluene, naphthaline, anthracene, pyridine, carbazole, and other cyclic chemical products; (2) synthetic organic dyes; (3) synthetic organic pigments; and (4) cyclic (coal tar) crudes, such as light oils and light oil products; coal tar acids; and products of medium and heavy oil such as creosote oil, naphthalene, anthracene, and their higher homologues, and tar. Establishments primarily engaged in manufacturing coal tar crudes in chemical recovery ovens are classified in industry 3312, and petroleum refineries which produce such products in industry 2911.

2869 **Industrial Organic Chemicals, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing industrial organic chemicals not elsewhere classified. Important products of this industry include: (1) Noncyclic organic chemicals such as acetic, chloroacetic, adipic, formic, oxalic and tartaric acids and their metallic salts; chloral, formaldehyde and methylamine; (2) solvents such as amyl, butyl, and ethyl alcohols; methanol; amyl, butyl and ethyl acetates; ethel ether, ethylene glycol ether and diethylene glycol ether; acetone, carbon disulfide and chlorinated solvents such as carbon tetrachloride, perchloroethylene and trichloroethylene; (3) polyhydric alcohols such as ethylene glycol, sorbitol, pentaerythritol, synthetic glycerin; (4) synthetic perfume and flavoring materials such as coumarin, methyl salicylate, saccharin, citral, citronellal, synthetic geraniol, ionone, terpineol, and synthetic vanillin; (5) rubber processing chemicals such as accelerators and antioxidants, both cyclic and acyclic; (6) plasticizers, both cyclic and acyclic, such as esters of phosphoric acid, phthalic anhydride, adipic acid, lauric acid, oleic acid, sebacic acid, and stearic acid; (7) synthetic tanning agents such as naphthalene sulfonic acid condensates; (8) chemical warfare gases; and (9) esters, amines, etc., of polyhydric alcohols and fatty and other acids. Establishments primarily engaged in manufacturing plastics materials and nonvulcanizable elastomers are classified in industry 2821; synthetic rubber in industry 2822; essential oils in industry 2899; wood distillation products, naval stores, and natural dyeing and tanning materials in industry 2861; rayon and other synthetic fibers in industries 2823 and 2824; specialty cleaning, polishing, and sanitation preparations in industry 2842; paints in industry 2851; urea in industry 2873; organic pigments in industry 2865; and inorganic pigments in industry 2816. Distilleries engaged in the manufacture of grain alcohol for beverage purposes are classified in industry 2085.

287 AGRICULTURAL CHEMICALS

This group includes establishments primarily engaged in manufacturing nitrogenous and phosphatic basic fertilizers, mixed fertilizers, pesticides, and other agricultural chemicals. Establishments primarily engaged in manufacturing basic chemicals which require further processing or formulation before use as agricultural pest-control agents are classified in SIC group 281 or 286.

2873 Nitrogenous Fertilizers.—Establishments primarily engaged in manufacturing nitrogenous fertilizer material or mixed fertilizers from nitrogenous materials produced in the same establishment. Included are ammonia fertilizer compounds and anhydrous ammonia, nitric acid, ammonium nitrate, ammonium sulfate and nitrogen solutions, urea, and natural organic fertilizers (except compost) and mixtures.

2874 Phosphatic Fertilizers.—Establishments primarily engaged in manufacturing phosphatic fertilizer materials or mixed fertilizers from phosphatic materials produced in the same establishment. Included are phosphoric acid; normal, enriched, and concentrated superphosphates; ammonium phosphates; nitrophosphates; and calcium metaphosphates.

2875 Fertilizers, Mixing Only.—Establishments primarily engaged in mixing fertilizers from purchased fertilizer materials.

2879 Pesticides and Agricultural Chemicals, Not Elsewhere Classified.—Establishments primarily engaged in the formulation and preparation of ready-to-use agricultural and household pest-control chemicals, including insecticides, fungicides, and herbicides from technical chemicals or concentrates; and the production of concentrates which require further processing before use as agricultural pesticides. This industry also includes establishments primarily engaged in manufacturing or formulating agricultural chemicals, not elsewhere classified, such as minor or trace elements and soil conditioners. Establishments primarily engaged in manufacturing basic or technical agricultural pest-control chemicals including insecticides, fungicides, and herbicides such as lead and calcium arsenates, and copper sulfate are classified in SIC group 281, and DDT, BHC, 2,4-D carbamates, etc., in SIC group 286. Establishments primarily engaged in manufacturing agricultural lime products are classified in SIC Major Group 32.

289 MISCELLANEOUS CHEMICAL PRODUCTS

2891 Adhesives and Sealants.—Establishments primarily engaged in manufacturing industrial and household adhesives, glues, calking compounds, sealants, and linoleum, tile, and rubber cements from vegetable, animal, or synthetic plastics materials, purchased or produced in the same establishment. Establishments primarily engaged in manufacturing gelatin and sizes are classified in industry 2899, and vegetable gelatin or agar-agar in industry 2833.

2892 Explosives.—Establishments primarily engaged in manufacturing explosives. Establishments primarily engaged in manufacturing ammunition for small arms are classified in industry 3482, and fireworks in industry 2899.

2893 Printing Ink.—Establishments primarily engaged in manufacturing printing ink, gravure ink, screen process ink, and lithographic ink.

2895 Carbon Black.—Establishments primarily engaged in manufacturing carbon black (channel and furnace black).

2899 Chemicals and Chemical Preparations, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing miscellaneous chemical preparations, not elsewhere classified, such as fatty acids, essential oils, gelatin (except vegetable), sizes, bluing, laundry sours, writing and stamp pad inks; industrial compounds, such as boiler and heat insulating compounds, metal, oil and water treating compounds, and waterproofing compounds and chemical supplies for foundries. Establishments primarily engaged in manufacturing vegetable gelatin (agar-agar) are classified in industry 2833; and dessert preparations based on gelatin in industry 2099.

29 PETROLEUM REFINING AND RELATED INDUSTRIES

This major group includes establishments primarily engaged in petroleum refining, manufacturing paving and roofing materials, and compounding lubricating oils and greases from purchased materials. Establishments manufacturing and distributing gas to consumers are classified in public utilities industries, and those primarily engaged in producing coke and byproducts in SIC Major Group 33.

291 PETROLEUM REFINING

2911 Petroleum Refining.—Establishments primarily engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, and other products from crude petroleum and its fractionation products, through straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes. Establishments primarily engaged in producing natural gasoline from natural gas are classified in mining industries. Those manufacturing lubricating oils and greases by blending and compounding purchased materials are included in industry 2992. Establishments primarily re-refining used lubricating oils are classified in industry 2992.

295 PAVING AND ROOFING MATERIALS

2951 Paving Mixtures and Blocks.—Establishments primarily engaged in manufacturing asphalt and tar paving mixtures; and paving blocks made of asphalt, creosoted wood, and various compositions of asphalt or tar with other materials. Establishments primarily engaged in manufacturing brick, concrete, granite, and stone paving blocks are classified in SIC Major Group 32.

2952 Asphalt Felts and Coatings.—Establishments primarily engaged in manufacturing asphalt and other saturated felts in roll or shingle form, either smooth or faced with grit, and in manufacturing roofing cements and coatings. Establishments primarily engaged in manufacturing paint are classified in industry 2851, and linoleum and tile cement in industry 2891.

299 MISCELLANEOUS PRODUCTS OF PETROLEUM AND COAL

2992 Lubricating Oils and Greases.—Establishments primarily engaged in blending, compounding, and re-refining lubricating oils and greases from purchased mineral, animal, and vegetable materials. Petroleum refineries engaged in the production of lubricating oils and greases are classified in industry 2911.

2999 Products of Petroleum and Coal, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing fuel briquettes, boulets, packaged fuel, powdered fuel, and other products of petroleum and coal not elsewhere classified.

30 RUBBER AND MISCELLANEOUS PLASTICS PRODUCTS

This major group includes establishments manufacturing from natural, synthetic, or reclaimed rubber, gutta percha, balata, or gutta siak, rubber products such as tires, rubber footwear, mechanical rubber goods, heels and soles, flooring, and rubber sundries. This group also includes establishments primarily manufacturing tires, but establishments primarily recapping and retreading automobile tires are classified in industry 7534. This group also includes establishments engaged in molding primary plastics for the trade and manufacturing miscellaneous finished plastics products. The manufacture of elastic webbing is classified in SIC Major Group 22; products made of elastic webbing and garments made from rubberized fabrics in SIC Major Group 23; and synthetic rubber in industry 2822.

301 TIRES AND INNER TUBES

3011 Tires and Inner Tubes.—Establishments primarily engaged in manufacturing pneumatic casings, inner tubes, and solid and cushion tires for all types of vehicles, airplanes, farm equipment, and children's vehicles; tiring; and camelback, and tire repair and retreading materials. Establishments primarily engaged in retreading tires are classified in industry 7534.

302 RUBBER AND PLASTICS FOOTWEAR

3021 Rubber and Plastics Footwear.—Establishments primarily engaged in manufacturing all rubber and plastics footwear, waterproof fabric upper footwear, and other fabric upper footwear having rubber or plastic soles vulcanized to the uppers. Establishments primarily engaged in manufacturing rubber, composition, and fiber heels, soles, soling strips, and related shoemaking and repairing materials are classified in industry 3069; plastic soles and soling strips in industry 3079.

303 RECLAIMED RUBBER

3031 Reclaimed Rubber.—Establishments primarily engaged in reclaiming rubber from scrap rubber tires, tubes, and miscellaneous waste rubber articles by processes which result in devulcanized, depolymerized, or regenerated replasticized products containing added ingredients. These products are sold

for use as a raw material in the manufacture of rubber goods with or without admixture with crude rubber or synthetic rubber. Establishments primarily engaged in the assembly and wholesale sale of scrap rubber are classified in trade industries.

304 RUBBER AND PLASTICS HOSE AND BELTING

3041 Rubber and Plastics Hose and Belting.—Establishments primarily engaged in manufacturing rubber and plastics hose and belting, including garden hose. Establishments primarily engaged in manufacturing rubber tubing are classified in industry 3069; plastic tubing in industry 3079; and flexible metallic hose in industry 3599.

306 FABRICATED RUBBER PRODUCTS, NOT ELSEWHERE CLASSIFIED

3069 Fabricated Rubber Products, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing industrial and mechanical rubber goods, rubberized fabrics, vulcanized rubber clothing, and miscellaneous rubber specialties and sundries. Establishments primarily engaged in rebuilding and retreading tires are classified in industry 7534; and gaskets and packing in industry 3293.

307 MISCELLANEOUS PLASTICS PRODUCTS

3079 Miscellaneous Plastics Products.—Establishments primarily engaged in molding primary plastics for the trade, and fabricating miscellaneous finished plastics products. Establishments primarily engaged in manufacturing fabricated plastics products or plastics film, sheet, rod, nontextile monofilaments and regenerated cellulose products, and vulcanized fiber are classified in this industry, whether from purchased resins or from resins produced in the same plant. Establishments primarily engaged in compounding purchased resins are also classified in this industry. Establishments primarily engaged in manufacturing artificial leather are classified in industry 2295.

31 LEATHER AND LEATHER PRODUCTS

This major group includes establishments engaged in tanning, currying, and finishing hides and skins, and establishments manufacturing finished leather, artificial leather products, and some similar products made of other materials. Leather converters are also included.

311 LEATHER TANNING AND FINISHING

3111 Leather Tanning and Finishing.—Establishments primarily engaged in tanning, currying, and finishing hides and skins into leather. This industry also includes leather converters who buy hides and skins and have them processed into leather on a contract basis by others.

313 BOOT AND SHOE CUT STOCK AND FINDINGS

3131 Boot and Shoe Cut Stock and Findings.—Establishments primarily engaged in manufacturing leather soles, inner soles, and other boot and shoe cut stock and findings. This industry also includes finished wood heels. Establishments primarily engaged in manufacturing heels, soling strips, and soles made of rubber, composition, plastics, and fiber are classified in SIC Major Group 30.

314 FOOTWEAR, EXCEPT RUBBER

3142 House Slippers.—Establishments primarily engaged in manufacturing house slippers of leather or other materials.

3143 Men's Footwear, Except Athletic.—Establishments primarily engaged in the production of men's footwear designed primarily for dress, street, and work. Establishments primarily engaged in the production of such protective footwear as rubbers, rubber boots, storm shoes, galoshes, and other footwear with rubber soles vulcanized to the uppers are classified in industry 3021. Establishments primarily engaged in the production of athletic shoes and youths' and boys' shoes are classified in industry 3149.

3144 Women's Footwear, Except Athletic.—Establishments primarily engaged in the production of women's footwear designed primarily for dress, street, and work. Establishments primarily engaged in the production of athletic shoes and misses', children's, infants', and babies' footwear are classified in industry 3149 Establishments primarily engaged in the production of rubber or plastics footwear are classified in industry 3021.

3149 Footwear, Except Rubber, Not Elsewhere Classified.—Establishments primarily engaged in the production of shoes, not elsewhere classified, such as misses', youths', boys', children's, infants', and babies' footwear, and athletic footwear. Establishments primarily engaged in the production of rubber or plastics footwear are classified in industry 3021.

315 LEATHER GLOVES AND MITTENS

3151 Leather Gloves and Mittens.—Establishments primarily engaged in manufacturing dress, semidress, and work gloves exclusively of leather or leather with lining of other material. Establishments primarily engaged in manufacturing sporting and athletic gloves are classified in industry 3949; and dress, semidress, and work gloves and mittens of cloth or cloth and leather combined in industry 2381.

316 LUGGAGE

3161 Luggage.—Establishments primarily engaged in manufacturing luggage of leather or other materials.

317 HANDBAGS AND OTHER PERSONAL LEATHER GOODS

3171 Women's Handbags and Purses.—Establishments primarily engaged in manufacturing women's handbags and purses of leather or other materials, except precious metal (industry 3911).

3172 Personal Leather Goods, Except Women's Handbags and Purses.—Establishments primarily engaged in manufacturing small articles, such as billfolds, key cases, and coin purses of leather or other materials, except precious metal (industry 3911).

319 LEATHER GOODS, NOT ELSEWHERE CLASSIFIED

3199 Leather Goods, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing leather goods, not elsewhere classified, such as saddlery, harness, whips, embossed leather goods, leather desk sets, razor strops, and leather belting. Establishments primarily engaged in manufacturing gaskets and packing are classified in industry 3293.

32 STONE, CLAY, GLASS, AND CONCRETE PRODUCTS

This major group includes establishments engaged in manufacturing flat glass and other glass products, cement, structural clay products, pottery, concrete and gypsum products, cut stone, abrasive and asbestos products, etc., from materials taken principally from the earth in the form of stone, clay, and sand. When separate reports are available for mines and quarries operated by manufacturing establishments classified in this major group, the mining and quarrying activities are classified in Division B. When separate reports are not available, the mining and quarrying activities other than those of industry 3295 are classified herein with the manufacturing operations.

If separate reports are not available for crushing, grinding, and other preparation activities of industry 3295, these establishments are classified in Division B.

321 FLAT GLASS

3211 Flat Glass.—Establishments primarily engaged in manufacturing flat glass. This industry also produces laminated glass, but establishments primarily engaged in manufacturing laminated glass from purchased flat glass are classified in industry 3231.

322 GLASS AND GLASSWARE, PRESSED OR BLOWN

This group includes establishments primarily engaged in manufacturing glass and glassware, pressed, blown, or shaped from glass produced in the same establishment. Establishments primarily engaged in manufacturing glass products from purchased glass are classified in industry 3231.

3221 Glass Containers.—Establishments primarily engaged in manufacturing glass containers for commercial packing and bottling and for home canning.

3229 Pressed and Blown Glass and Glassware, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing glass and glassware, not elsewhere classified, pressed, blown, or shaped from glass produced in the same establishment. Establishments primarily engaged in manufacturing textile glass fibers are also included in this industry, but establishments primarily engaged in manufacturing glass wool insulation products are classified in industry

3296. Establishments primarily engaged in the production of pressed lenses for vehicular lighting, beacons, and lanterns are also included in this industry, but establishments primarily engaged in the production of optical lenses are classified in industry 3832. Establishments primarily engaged in manufacturing glass containers are classified in industry 3221, and complete electric light bulbs in industry 3641.

323 GLASS PRODUCTS, MADE OF PURCHASED GLASS

3231 Glass Products, Made of Purchased Glass.—Establishments primarily engaged in manufacturing glass products from purchased glass. Establishments primarily engaged in manufacturing optical lenses and ophthalmic lenses are classified in SIC Major Group 38.

324 CEMENT, HYDRAULIC

3241 Cement, Hydraulic.—Establishments primarily engaged in manufacturing hydraulic cement, including portland, natural, masonry, and pozzolan cements.

325 STRUCTURAL CLAY PRODUCTS

3251 Brick and Structural Clay Tile.—Establishments primarily engaged in manufacturing brick and structural clay tile. Establishments primarily engaged in manufacturing clay firebrick are classified in industry 3255, nonclay firebrick in industry 3297, sand lime brick in industry 3299, and glass brick in industry 3229.

3253 Ceramic Wall and Floor Tile.—Establishments primarily engaged in manufacturing ceramic wall and floor tile. Establishments primarily engaged in manufacturing structural clay tile are classified in industry 3251, and drain tile in industry 3259.

3255 Clay Refractories.—Establishments primarily engaged in manufacturing clay firebrick and other heat-resisting clay products. Establishments primarily engaged in manufacturing nonclay refractories, as well as all graphite refractories whether of carbon bond or ceramic bond, are classified in industry 3297.

3259 Structural Clay Products, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing clay sewer pipe and structural clay products not elsewhere classified.

326 POTTERY AND RELATED PRODUCTS

3261 Vitreous China Plumbing Fixtures and China and Earthenware Fittings and Bathroom Accessories.—Establishments primarily engaged in manufacturing china plumbing fixtures and china and earthenware fittings and bathroom accessories.

3262 Vitreous China Table and Kitchen Articles.—Establishments primarily engaged in manufacturing vitreous china table and kitchen articles for use in households and in hotels, restaurants, and other commercial institutions for preparing, serving, or storing food or drink. Establishments primarily engaged in manufacturing fine (semivitreous) types of earthenware (whiteware) table and kitchen articles are classified in industry 3263.

3263 Fine Earthenware (Whiteware) Table and Kitchen Articles.—Establishments primarily engaged in manufacturing fine (semivitreous) types of earthenware table and kitchen articles for preparing, serving, or storing food or drink. Establishments primarily engaged in manufacturing vitreous china table and kitchen articles are classified in industry 3262.

3264 Porcelain Electrical Supplies.—Establishments primarily engaged in manufacturing porcelain electrical insulators, molded porcelain parts for electrical devices, spark plug and steatitic porcelain, and other electrical supplies from clay and other ceramic materials.

3269 Pottery Products, Not Elsewhere Classified.—Establishments primarily engaged in firing and decorating white china and earthenware for the trade and manufacturing art and ornamental pottery, industrial and laboratory pottery, stoneware and coarse earthenware table and kitchen articles, unglazed red earthenware florists' articles, and other pottery products, not elsewhere classified.

327 CONCRETE, GYPSUM, AND PLASTER PRODUCTS

3271 Concrete Block and Brick.—Establishments primarily engaged in manufacturing concrete building block and brick from a combination of cement and aggregate. Contractors engaged in concrete construction work are classified in the construction industries, and establishments primarily engaged in mixing and delivering ready-mixed concrete in industry 3273.

3272 **Concrete Products, Except Block and Brick.**—Establishments primarily engaged in manufacturing concrete products, except block and brick, from a combination of cement and aggregate. Contractors engaged in concrete construction work are classified in the construction industries, and establishments primarily engaged in mixing and delivering ready-mixed concrete in industry 3273.

3273 **Ready-Mixed Concrete.**—Establishments primarily engaged in manufacturing portland cement concrete manufactured and delivered to a purchaser in a plastic and unhardened state. This industry includes production and sale of central-mixed concrete, shrink-mixed concrete, and transit-mixed concrete.

3274 **Lime.**—Establishments primarily engaged in manufacturing quicklime, hydrated lime, and "dead-burned" dolomite from limestone, dolomite shells, or other substances.

3275 **Gypsum Products.**—Establishments primarily engaged in manufacturing plaster, plasterboard, and other products composed wholly or chiefly of gypsum.

328 CUT STONE AND STONE PRODUCTS

3281 **Cut Stone and Stone Products.**—Establishments primarily engaged in cutting, shaping, and finishing marble, granite, slate, and other stone for building and miscellaneous uses. Establishments primarily engaged in buying or selling partly finished monuments and tombstones, but performing no work on the stones other than lettering, finishing, or shaping to custom order, are classified in trade industries. The cutting of grindstones, pulpstones, and whetstones at the quarry is classified in Division B.

329 ABRASIVE, ASBESTOS, AND MISCELLANEOUS NONMETALLIC MINERAL PRODUCTS

3291 **Abrasive Products.**—Establishments primarily engaged in manufacturing abrasive grinding wheels of natural or synthetic materials and other abrasive products. The cutting of grindstones, pulpstones, and whetstones at the quarry is classified in mining industries.

3292 **Asbestos Products.**—Establishments primarily engaged in manufacturing asbestos textiles, asbestos building materials, except asbestos paper (industry 2661), insulating materials for covering boilers and pipes, and other commodities composed wholly or chiefly of asbestos. Establishments primarily engaged in manufacturing gaskets and steam and other packing are classified in industry 3293.

3293 **Gaskets, Packing, and Sealing Devices.**—Establishments primarily engaged in manufacturing gaskets, gasketing materials, compression packings, molded packings, oil seals, and mechanical seals. Included are gaskets, packing, and sealing devices made of leather, rubber, metal, asbestos, and plastics.

3295 **Minerals and Earths, Ground or Otherwise Treated.**—Establishments operating without a mine or quarry and primarily engaged in the crushing, grinding, pulverizing, or otherwise preparing clay, ceramic, and refractory minerals; barite; and miscellaneous nonmetallic minerals, except fuels. These minerals are the crude products mined by establishments of SIC groups 145 and 149 and industry 1472. Also included are establishments primarily crushing slag and preparing roofing granules. The beneficiation or preparation of other minerals and metallic ores, and the cleaning and grading of coal, are classified in the mining industries, whether or not the operation is associated with a mine.

3296 **Mineral Wool.**—Establishments primarily engaged in manufacturing mineral wool and mineral wool insulation products made of such siliceous materials as rock, slag, and glass, or combinations thereof. Establishments primarily engaged in manufacturing asbestos insulation products are classified in industry 3292, and textile glass fibers in industry 3229.

3297 **Nonclay Refractories.**—Establishments primarily engaged in manufacturing refractories and crucibles made of materials other than clay. This industry also includes establishments primarily engaged in manufacturing all graphite refractories, whether of carbon bond or ceramic bond. Establishments primarily engaged in manufacturing clay refractories are classified in industry 3255.

3299 **Nonmetallic Mineral Products, Not Elsewhere Classified.**—Establishments primarily engaged in the factory production of statuary and art goods made of plaster of paris and papier mache, and in manufacturing sand lime products and other nonmetallic mineral products not elsewhere classified.

33 PRIMARY METAL INDUSTRIES

This major group includes establishments engaged in the smelting and refining of ferrous and nonferrous metals from ore, pig, or scrap; in the rolling, drawing, and alloying of ferrous and nonferrous metals; in the manufacture of castings and other basic products of ferrous and nonferrous metals; and in the manufacture of nails, spikes, and insulated wire and cable. This major group also includes the production of coke. Establishments primarily engaged in manufacturing metal forgings or stampings are classified in SIC group 346.

331 BLAST FURNACES, STEELWORKS, AND ROLLING AND FINISHING MILLS

3312 Blast Furnaces (Including Coke Ovens), Steelworks, and Rolling Mills.—Establishments primarily engaged in manufacturing hot metal, pig iron, silvery pig iron, and ferroalloys from iron ore and iron and steel scrap; converting pig iron, scrap iron, and scrap steel into steel; and in hot rolling iron and steel into basic shapes such as plates, sheets, strips, rods, bars, and tubing. Merchant blast furnaces and byproduct or beehive coke ovens are also included in this industry. Establishments primarily engaged in manufacturing ferro and nonferrous additive alloys by electrometallurgical processes are classified in industry 3313.

3313 Electrometallurgical Products.—Establishments primarily engaged in manufacturing ferro and nonferrous additive alloys by electrometallurgical or metallothermic processes, including high percentage ferroalloys and high percentage nonferrous additive alloys.

3315 Steel Wiredrawing and Steel Nails and Spikes.—Establishments primarily engaged in drawing wire from purchased iron or steel rods, bars, or wire, and which may be engaged in the further manufacture of products made from wire; establishments primarily engaged in manufacturing steel nails and spikes from purchased materials are also included in this industry. Rolling mills engaged in the production of ferrous wire from wire rods or hot rolled bars produced in the same establishment are classified in industry 3312. Establishments primarily engaged in drawing nonferrous wire are classified in SIC group 335.

3316 Cold Rolled Steel Sheet, Strip, and Bars.—Establishments primarily engaged in (1) cold rolling steel sheets and strip from purchased hot rolled sheets; (2) cold drawing steel bars and steel shapes from purchased hot rolled steel bars; and (3) producing other cold finished steel. Establishments primarily engaged in the production of steel, including hot rolled steel sheets, and further cold rolling such sheets are classified in industry 3312.

3317 Steel Pipe and Tubes.—Establishments primarily engaged in the production of welded or seamless steel pipe and tubes and heavy riveted steel pipe from purchased materials. Establishments primarily engaged in the production of steel, including steel skelp or steel blanks, tube rounds, or pierced billets, are classified in industry 3312.

332 IRON AND STEEL FOUNDRIES

This group includes establishments primarily engaged in manufacturing iron and steel castings. These establishments generally operate on a job or order basis, manufacturing castings for sale to others or for interplant transfer. Establishments which produce iron and steel castings and which are also engaged in fabricating operations, such as machining, assembling, etc., in manufacturing a specified product are classified in the industry of the specified product. Iron and steel castings are made to a considerable extent by establishments classified in other industries, that operate foundry departments for the production of castings for incorporation, in the same establishment, into such products as stoves, furnaces, plumbing fixtures, motor vehicles, etc. Establishments primarily engaged in the manufacture and rolling of steel and also making steel castings are classified in industry 3312. Establishments primarily engaged in manufacturing nonferrous castings are classified in SIC group 336.

3321 Gray Iron Foundries.—Establishments primarily engaged in manufacturing gray iron castings, including cast iron pressure and soil pipes and fittings.

3322 Malleable Iron Foundries.—Establishments primarily engaged in manufacturing malleable iron castings.

3324 Steel Investment Foundries.—Establishments primarily engaged in manufacturing steel investment castings.

3325 Steel Foundries, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing steel castings not elsewhere classified.

333 PRIMARY SMELTING AND REFINING OF NONFERROUS METALS

3331 Primary Smelting and Refining of Copper.—Establishments primarily engaged in smelting copper from the ore, and in refining copper by electrolytic or other processes. Establishments primarily engaged in rolling, drawing, or extruding copper are classified in industry 3351.

3332 Primary Smelting and Refining of Lead.—Establishments primarily engaged in smelting lead from the ore and in refining lead by any process. Establishments primarily engaged in rolling, drawing, or extruding lead are classified in industry 3356.

3333 Primary Smelting and Refining of Zinc.—Establishments primarily engaged in smelting zinc from the ore and in refining zinc by any process. Establishments primarily engaged in rolling, drawing, or extruding zinc are classified in industry 3356.

3334 Primary Production of Aluminum.—Establishments primarily engaged in producing aluminum from aluminua and in refining aluminum by any process. Establishments primarily engaged in rolling, drawing, or extruding aluminum are classified in industries 3353, 3354, and 3355.

3339 Primary Smelting and Refining of Nonferrous Metals, Not Elsewhere Classified.—Establishments primarily engaged in smelting and refining nonferrous metals not elsewhere classified. Establishments primarily engaged in rolling, drawing, and extruding these nonferrous primary metals are classified in industry 3356, and the production of bullion at the site of the mine is classified in the mining industries.

334 SECONDARY SMELTING AND REFINING OF NONFERROUS METALS

3341 Secondary Smelting and Refining of Nonferrous Metals.—Establishments primarily engaged in recovering nonferrous metals and alloys from new and used scrap and dross. This industry includes establishments engaged in both the recovery and alloying of precious metals. Plants engaged in the recovery of tin through secondary smelting and refining, as well as by chemical processes, are included in this industry. Establishments primarily engaged in assembling, sorting, and breaking up scrap metal, without smelting and refining, are classified in trade industries.

335 ROLLING, DRAWING, AND EXTRUDING OF NONFERROUS METALS

3351 Rolling, Drawing, and Extruding of Copper.—Establishments primarily engaged in rolling, drawing, and extruding copper, brass, bronze, and other copper base alloy basic shapes, such as plate, sheet, strip, bar, and tubing. Establishments primarily engaged in recovering copper and its alloys from scrap or dross are classified in industry 3341.

3353 Aluminum Sheet, Plate, and Foil.—Establishments primarily engaged in flat rolling aluminum and aluminum base alloy basic shapes such as sheet, plate, and foil, including establishments producing welded tube. Also included are establishments primarily producing similar products by continuous casting.

3354 Aluminum Extruded Products.—Establishments primarily engaged in extruding aluminum and aluminum base alloy basic shapes such as rod and bar, pipe and tube, and tube blooms, including establishments producing tube by drawing.

3355 Aluminum Rolling and Drawing, Not Elsewhere Classified.—Establishments primarily engaged in rolling, drawing, and other operations resulting in the production of aluminum ingot, including extrusion ingot, and aluminum and aluminum base alloy basic shapes, not elsewhere classified, such as rolled and continuous cast rod and bar. Establishments primarily engaged in producing aluminum powder, flake, and paste are classified in industry 3399, and those producing aluminum wire and cable from purchased wire bars, rods, or wire are classified in industry 3357.

3356 Rolling, Drawing, and Extruding of Nonferrous Metals, Except Copper and Aluminum.—Establishments primarily engaged in rolling, drawing, and extruding nonferrous metals other than copper (industry 3351) and aluminum (industries 3353, 3354, and 3355). The products of this industry are

produced in the form of basic shapes such as plate, sheet, strip, bar, and tubing. Establishments primarily engaged in recovering nonferrous metals and alloys from scrap or dross are classified in industry 3341; in manufacturing gold, silver, tin, and other foils except aluminum in industry 3497; and aluminum foil in industry 3353.

3357 Drawing and Insulating of Nonferrous Wire.—Establishments primarily engaged in drawing and insulating, and insulating wire and cable of nonferrous metals from purchased wire bars, rods, or wire.

336 NONFERROUS FOUNDRIES (CASTINGS)

This group includes establishments primarily engaged in manufacturing castings and die castings of aluminum, brass, bronze and other nonferrous metals and alloys. These establishments generally operate on a job or order basis, manufacturing castings for sale to others or for interplant transfer. Establishments which produce nonferrous castings and which are also engaged in fabricating operations, such as machining, assembling, etc., in manufacturing a specified product are classified in the industry of the specified product. Nonferrous castings are made to a considerable extent by establishments classified in other industries that operate foundry departments for the production of castings for incorporation, in the same establishment, into such products as machinery, motor vehicles, etc. Establishments primarily engaged in manufacturing iron and steel castings are classified in SIC group 332.

3361 Aluminum Foundries (Castings).—Establishments primarily engaged in manufacturing castings and die castings of aluminum and aluminum-base alloys.

3362 Brass, Bronze, Copper, Copper Base Alloy Foundries (Castings).—Establishments primarily engaged in manufacturing castings and die castings of copper and copper-base alloys.

3369 Nonferrous Foundries (Castings), Not Elsewhere Classified.—Establishments primarily engaged in manufacturing castings and die castings of nonferrous materials except aluminum, copper, and copper base alloys.

339 MISCELLANEOUS PRIMARY METAL PRODUCTS

3398 Metal Heat Treating.—Establishments primarily engaged in heat treating of metal for the trade.

3399 Primary Metal Products, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing primary metal products, not elsewhere classified, such as nonferrous nails, brads, and spikes; and metal powder, flakes, and paste.

34 FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND TRANSPORTATION EQUIPMENT

This major group includes establishments engaged in fabricating ferrous and nonferrous metal products such as metal cans, tinware, handtools, cutlery, general hardware, nonelectric heating apparatus, fabricated structural metal products, metal forgings, metal stampings, ordnance (except vehicles and guided missiles), and a variety of metal and wire products not elsewhere classified. Certain important segments of the metal fabricating industries are classified in other major groups such as machinery in SIC Major Groups 35 and 36; transportation equipment, including tanks, in SIC Major Group 37; professional scientific and controlling instruments, watches, and clocks in SIC Major Group 38; and jewelry and silverware in SIC Major Group 39. Establishments primarily engaged in producing ferrous and nonferrous metals and their alloys are classified in SIC Major Group 33.

341 METAL CANS AND SHIPPING CONTAINERS

3411 Metal Cans.—Establishments primarily engaged in manufacturing metal cans from purchased materials. Establishments primarily engaged in manufacturing foil containers are classified in industry 3497.

3412 Metal Shipping Barrels, Drums, Kegs, and Pails.—Establishments primarily engaged in manufacturing ferrous and nonferrous metal shipping barrels, drums, kegs, and pails.

342 CUTLERY, HANDTOOLS, AND GENERAL HARDWARE

3421 Cutlery.—Establishments primarily engaged in manufacturing cutlery. Establishments primarily engaged in manufacturing table cutlery made entirely of metal are classified in industry 3914; those manufacturing electric razors in industry 3634; and those manufacturing hair clippers for human use in industry 3999, and for animal use in industry 3523.

3423 **Hand and Edge Tools, Except Machine Tools and Handsaws.**—Establishments primarily engaged in manufacturing files and other hand and edge tools for metalworking, woodworking, and general maintenance. Establishments primarily engaged in manufacturing saws are classified in industry 3425; and metal-cutting dies, power-driven handtools, and attachments and accessories for machine tools in SIC Major Group 35.

3425 **Handsaws and Saw Blades.**—Establishments primarily engaged in manufacturing handsaws and saw blades for hand and power-driven saws. Establishments primarily engaged in manufacturing power-driven sawing machines are classified in SIC Major Group 35.

3429 **Hardware, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing miscellaneous metal products usually termed "hardware," not elsewhere classified. Establishments primarily engaged in manufacturing bolts and nuts are classified in industry 3452, nails and spikes in SIC Major Group 33, cutlery in industry 3421, handtools in industry 3423, and pole line and transmission hardware in SIC Major Group 36.

343 HEATING EQUIPMENT, EXCEPT ELECTRIC AND WARM AIR; AND PLUMBING FIXTURES

3431 **Enameled Iron and Metal Sanitary Ware.**—Establishments primarily engaged in manufacturing enameled iron, cast iron, or pressed metal sanitary ware. Establishments primarily engaged in manufacturing vitreous and semivitreous pottery sanitary ware are classified in industry 3261; and those manufacturing porcelain enameled kitchen, household, and hospital ware in industry 3469.

3432 **Plumbing Fixture Fittings and Trim (Brass Goods).**—Establishments primarily engaged in manufacturing plumbing fixture fittings and trim (brass goods). Establishments primarily engaged in the manufacture of steam or water line valves are classified in industry 3494.

3433 **Heating Equipment, Except Electric and Warm Air Furnaces.**—Establishments primarily engaged in manufacturing heating equipment, except electric and warm air furnaces, including gas, oil, and stoker coal-fired equipment for the automatic utilization of gaseous, liquid, and solid fuels. Establishments primarily engaged in manufacturing warm air furnaces are classified in industry 3585; cooking stoves and ranges in industry 3631; boiler shops primarily engaged in the production of industrial, power and marine boilers in industry 3443; and industrial process furnaces and ovens in industry 3567.

344 FABRICATED STRUCTURAL METAL PRODUCTS

3441 **Fabricated Structural Metal.**—Establishments primarily engaged in manufacturing fabricated iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges. Establishments primarily engaged in manufacturing metal doors, sash, frames, molding, and trim are classified in industry 3442; and establishments doing fabrication work at the site of construction are classified in Division C.

3442 **Metal Doors, Sash, Frames, Molding, and Trim.**—Establishments primarily engaged in manufacturing ferrous and nonferrous metal and metal covered doors and sash, window and door frames and screens, molding, and trim.

3443 **Fabricated Platework (Boiler Shops).**—Establishments primarily engaged in manufacturing power and marine boilers, pressure and nonpressure tanks, processing and storage vessels, heat exchangers, weldments, and similar products by the process of cutting, forming, and joining metal plates, shapes, bars, sheet, pipe mill products, and tubing to custom or standard design for factory or field assembly. Establishments primarily engaged in manufacturing warm air heating furnaces are classified in industry 3585, other nonelectric heating apparatus except power boilers in industry 3433, and household cooking apparatus in industry 3631.

3444 **Sheet Metalwork.**—Establishments primarily engaged in manufacturing sheet metalwork for buildings (not including fabrication work done by construction contractors at the place of construction), and manufacturing sheet metal stovepipes, light tanks, etc.

3446 **Architectural and Ornamental Metalwork.**—Establishments primarily engaged in manufacturing architectural and ornamental metalwork of ferrous and nonferrous metals, such as stairs and staircases, open

steel flooring (grating), fire escapes, grilles, railings, and fences and gates, except those made from wire. Establishments primarily engaged in manufacturing prefabricated and portable metal buildings and parts are classified in industry 3448, and miscellaneous metalwork in industry 3449.

3448 **Prefabricated Metal Buildings and Components.**—Establishments primarily engaged in manufacturing prefabricated and portable metal buildings and parts, and prefabricated exterior metal panels.

3449 **Miscellaneous Metalwork.**—Establishments primarily engaged in manufacturing miscellaneous ferrous and nonferrous metalwork, such as metal plaster bases, fabricated bar joists, and concrete reinforcing bars.

345 SCREW MACHINE PRODUCTS, AND BOLTS, NUTS, SCREWS, RIVETS, AND WASHERS

3451 **Screw Machine Products.**—Establishments primarily engaged in manufacturing automatic or hand screw machine products from rod, bar, or tube stock of metal, fiber, plastics, or other material. The products of this industry consist of a wide variety of unassembled parts and are usually manufactured on a job or order basis. Establishments primarily engaged in manufacturing standard bolts, nuts, rivets, screws, and other industrial fasteners on headers, threaders, and nut forming machines are classified in industry 3452.

3452 **Bolts, Nuts, Screws, Rivets, and Washers.**—Establishments primarily engaged in manufacturing bolts, nuts, screws, rivets, washers, formed and threaded wire goods, and special industrial fasteners. Rolling mills engaged in manufacturing similar products are classified in SIC Major Group 33, and establishments primarily engaged in manufacturing screw machine products in industry 3451.

346 METAL FORGINGS AND STAMPINGS

This group includes establishments primarily engaged in manufacturing metal forgings or metal stampings. These establishments generally operate on a job or order basis, manufacturing metal stampings or forgings for sale to others or for interplant transfer. Establishments which produce metal stampings or forgings for incorporation in end products produced in the same establishment are classified on the basis of the end product.

3462 **Iron and Steel Forgings.**—Establishments primarily engaged in manufacturing iron and steel forgings, with or without the use of dies.

3463 **Nonferrous Forgings.**—Establishments primarily engaged in manufacturing nonferrous forgings, with or without the use of dies.

3465 **Automotive Stampings.**—Establishments primarily engaged in manufacturing automotive stampings such as body parts, hubs, and trim.

3466 **Crowns and Closures.**—Establishments primarily engaged in manufacturing metal crowns and closures.

3469 **Metal Stampings, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing metal stampings and spun products, not elsewhere classified, including porcelain enameled products such as household appliance housings and parts; utensils and consumer stamped and spun products such as cooking and kitchen utensils; and other nonautomotive job stampings.

347 COATING, ENGRAVING, AND ALLIED SERVICES

3471 **Electroplating, Plating, Polishing, Anodizing, and Coloring.**—Establishments primarily engaged in all types of electroplating, plating, anodizing, coloring, and finishing of metals and formed products for the trade. Most of the work done in this industry is done on materials owned by others.

3479 **Coating, Engraving, and Allied Services, Not Elsewhere Classified.**—Establishments primarily engaged in performing the following types of services on metals: (1) Enameling, lacquering, and varnishing metal products for the trade; (2) hot-dip galvanizing of mill sheets, plates and bars, castings, and formed products fabricated of iron and steel; hot-dip coating such items with aluminum, lead, or zinc; retinning cans and utensils; (3) engraving, chasing and etching jewelry, silverware, notarial and other seals, and other metal products for the trade and for job contracting for purposes other than printing; and (4) other metal services, not elsewhere classified. Establishments primarily engaged in electroplating, plating, polishing, anodizing, coloring, and finishing of metals and formed products for the trade are classified in industry 3471; and those producing porcelain enameled products in industry 3469.

348 ORDNANCE AND ACCESSORIES, EXCEPT VEHICLES AND GUIDED MISSILES

3482 Small Arms Ammunition.—Establishments primarily engaged in manufacturing ammunition for small arms having a bore of 30 mm (or 1.18 inch) and below. Establishments primarily engaged in manufacturing ammunition except for small arms are classified in industry 3483, blasting and detonating caps and safety fuses in industry 2892, and fireworks in industry 2899.

3483 Ammunition, Except for Small Arms, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing ammunition, not elsewhere classified, or in loading and assembling ammunition over 30 mm (or over 1.18 inch) for naval, aircraft, antiaircraft, tank, coast, and field artillery; including component parts. This industry also includes establishments primarily engaged in manufacturing bombs, mines, torpedoes, grenades, depth charges, chemical warfare projectiles, and their component parts. Establishments primarily engaged in manufacturing small arms ammunition are classified in industry 3482, explosives in industry 2892, and military pyrotechnics in industry 2899.

3484 Small Arms.—Establishments primarily engaged in manufacturing small firearms having a bore 30 mm (or 1.18 inch) and below, and parts for small firearms. Also included in this industry are establishments primarily engaged in manufacturing certain weapons over 30 mm which are carried and employed by the individual, such as grenade launchers and heavy field machine guns. Establishments primarily engaged in manufacturing artillery and mortars having a bore over 30 mm (or over 1.18 inch) and component parts are classified in industry 3489.

3489 Ordnance and Accessories, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing ordnance and accessories, not elsewhere classified, such as naval, aircraft, antiaircraft, tank, coast, and field artillery having a bore over 30 mm (or over 1.18 inch) and components. Establishments primarily engaged in manufacturing small arms and parts 30 mm (or 1.18 inch) and below are classified in industry 3484; tanks in industry 3795; and guided missiles in SIC group 376.

349 MISCELLANEOUS FABRICATED METAL PRODUCTS

3493 Steel Springs, Except Wire.—Establishments primarily engaged in manufacturing leaf springs, hot wound springs, and coiled flat springs. Establishments primarily engaged in manufacturing wire springs are classified in industry 3495.

3494 Valves and Pipe Fittings, Except Plumbers' Brass Goods.—Establishments primarily engaged in manufacturing pipe fittings and valves for controlling the flow of liquids or gases in pipes and mains, and for machinery. Establishments primarily engaged in manufacturing faucets, spigots, and similar plumbers' brass goods and fittings are classified in industry 3432, flexible metal hose and tubing in industry 3599, and fittings and couplings for garden hose in industry 3429.

3495 Wire Springs.—Establishments primarily engaged in manufacturing wire springs. Establishments primarily engaged in assembling wire bedsprings or seats are classified in SIC Major Group 25.

3496 Miscellaneous Fabricated Wire Products.—Establishments primarily engaged in manufacturing miscellaneous fabricated wire products from purchased wire, such as noninsulated wire rope and cable; fencing; screening, netting, paper machine wire cloth; and hangers, paper clips, kitchenware, and wire carts. Rolling mills engaged in manufacturing wire products are classified in SIC Major Group 33; establishments manufacturing nonferrous wire nails and spikes in industry 3399; those drawing and insulating nonferrous wire in industry 3357; and those manufacturing wire springs in industry 3495.

3497 Metal Foil and Leaf.—Establishments primarily engaged in manufacturing gold, silver, tin, and other metal foil (including converted metal foil) and leaf. Also included are establishments primarily engaged in converting metal foil (including aluminum) into wrappers, cookware, dinnerware, and containers, except bags and liners. Establishments primarily engaged in manufacturing plain aluminum foil are classified in industry 3353.

3498 Fabricated Pipe and Fabricated Pipe Fittings.—Establishments primarily engaged in fabricating pipe and pipe fittings from purchased pipe, by cutting,

threading, bending, etc. Establishments primarily engaged in manufacturing cast iron pipe and fittings, including cast and forged pipe fittings which have been machined and threaded, are classified in industry 3321; and welded and heavy riveted pipe and seamless steel pipe in industry 3317. Establishments primarily engaged in manufacturing products such as bannisters, railings, and guards from pipe are classified in industry 3446.

3499 Fabricated Metal Products, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing fabricated metal products, not elsewhere classified, such as fire or burglary resistive steel safes and vaults and similar fire or burglary resistive products; and collapsible tubes of thin flexible metal. Also included are establishments primarily engaged in manufacturing metal boxes, metal ladders, and metal household articles such as ice cream freezers and ironing boards. Establishments primarily engaged in manufacturing concrete grave vaults are classified in industry 3722, and metal grave vaults in industry 3995. Establishments primarily engaged in manufacturing advertising novelties are classified in industry 3993.

35 MACHINERY, EXCEPT ELECTRICAL

This major group includes establishments engaged in manufacturing machinery and equipment other than electrical equipment (SIC Major Group 36) and transportation equipment (SIC Major Group 37). Machines powered by built-in or detachable motors are ordinarily included in this major group, with the exception of electrical household appliances (SIC Major Group 36). Portable tools, both electric and pneumatic powered, are included in this major group, but handtools are classified in SIC Major Group 34.

351 ENGINES AND TURBINES

3511 Steam, Gas, and Hydraulic Turbine Generator Set Units.—Establishments primarily engaged in manufacturing steam turbines; hydraulic turbines; gas turbines, except aircraft; complete steam, gas, and hydraulic turbine generator set units; and steam engines. Establishments primarily engaged in building or rebuilding locomotives are classified in industry 3743; and those manufacturing nonautomotive type generators which are not part of a turbine generator set in industry 3621.

3519 Internal Combustion Engines, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing diesel, semi-diesel, or other internal combustion engines, not elsewhere classified, for stationary, marine, traction, and other uses. Establishments primarily engaged in manufacturing aircraft engines are classified in industry 3724; automotive engines (except diesel) in industry 3714; engine generator sets in industry 3621; and guided missile and space vehicle propulsion units in industry 3764.

352 FARM AND GARDEN MACHINERY AND EQUIPMENT

3523 Farm Machinery and Equipment.—Establishments primarily engaged in manufacturing farm machinery and equipment, including wheel tractors, for use in the preparation and maintenance of the soil; planting and harvesting of the crop; preparing crops for market, on the farm; or for use in performing other farm operations and processes. Establishments primarily engaged in manufacturing industrial trucks, tractors, and trailers used for handling materials in industrial plants, depots, and docks are classified in industry 3537; contractors' off-highway tractors are classified in industry 3531; farm handtools in SIC group 342; and garden tractors, lawn mowers and other lawn and garden equipment in industry 3524.

3524 Garden Tractors and Lawn and Garden Equipment.—Establishments primarily engaged in manufacturing lawn mowers, garden tractors, and other lawn and garden equipment used for home lawn and garden care. Also included are establishments primarily manufacturing snow blowers and throwers for residential use. Establishments primarily engaged in manufacturing farm machinery and equipment are classified in industry 3523; hand lawn and garden shears and pruners in industry 3421; and other garden handtools in industry 3423.

353 CONSTRUCTION, MINING, AND MATERIALS HANDLING MACHINERY AND EQUIPMENT

3531 Construction Machinery and Equipment.—Establishments primarily engaged in manufacturing heavy machinery and equipment used by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plant type; dredging machinery; pavers; and power shovels. Establish-

ments primarily engaged in manufacturing mining equipment are classified in industry 3532, and well-drilling machinery in industry 3533.

3532 **Mining Machinery and Equipment, Except Oilfield Machinery and Equipment.**—Establishments primarily engaged in manufacturing heavy machinery and equipment used by the mining industries, such as coal breakers, mine cars, mineral cleaning machinery, concentration machinery, core drills, coal cutters, portable rock drills, and rock crushing machinery. Establishments primarily engaged in manufacturing construction machinery are classified in industry 3531; well-drilling machinery in industry 3533; and coal and ore conveyors in industry 3535.

3533 **Oilfield Machinery and Equipment.**—Establishments primarily engaged in manufacturing machinery and equipment for use in oil and gas fields or for drilling water wells.

3534 **Elevators and Moving Stairways.**—Establishments primarily engaged in manufacturing passenger or freight elevators, automobile lifts, dumbwaiters, and moving stairways. Establishments primarily engaged in manufacturing commercial conveyor systems and equipment are classified in industry 3535, and farm elevators in industry 3523.

3535 **Conveyors and Conveying Equipment.**—Establishments primarily engaged in manufacturing conveyors and conveying equipment for installation in factories, warehouses, mines, and other industrial and commercial establishments. Establishments primarily engaged in manufacturing passenger or freight elevators, dumbwaiters, and moving stairways are classified in industry 3534; and overhead traveling cranes and monorail systems in industry 3536.

3536 **Hoists, Industrial Cranes, and Monorail Systems.**—Establishments primarily engaged in manufacturing overhead traveling cranes, hoists, and monorail systems for installation in factories, warehouses, and other industrial and commercial establishments.

3537 **Industrial Trucks, Tractors, Trailers, and Stackers.**—Establishments primarily engaged in manufacturing industrial trucks, tractors, trailers, stackers (truck type), and related equipment, used for handling materials on floors and paved surfaces in and around industrial and commercial plants, depots, docks, and terminals. Establishments primarily engaged in manufacturing motor vehicles and motor vehicle type trailers are classified in SIC group 371; farm-type wheel tractors in industry 3523; wheel tractor shovel loaders and tracklaying tractors in industry 3531; and wood pallets and skids in industry 2448.

354 METALWORKING MACHINERY AND EQUIPMENT

3541 **Machine Tools, Metal-Cutting Types.**—Establishments primarily engaged in manufacturing machines, not supported in the hands of an operator when in use, that shape metal by cutting or use of electrical techniques; the rebuilding of such machine tools; and the manufacture of replacement parts for them. Metalworking, or primarily metalworking, machine tools designed primarily for home workshops are also included. Establishments primarily engaged in the manufacture of electric welding equipment are classified in industry 3623; portable power-driven handtools in industry 3546; and gas welding and cutting equipment and automotive maintenance equipment in industry 3549.

3542 **Machine Tools, Metal-Forming Types.**—Establishments primarily engaged in manufacturing machines, not supported in the hands of an operator while in use, for pressing, hammering, extruding, shearing, die-casting, or otherwise forming metal into shape. This industry also includes rebuilding such machine tools and manufacturing repair parts for them. Establishments primarily engaged in the manufacture of electric welding equipment are classified in industry 3623; portable power-driven handtools in industry 3546; rolling mill machinery and equipment in industry 3547; and gas welding and cutting equipment and automotive maintenance equipment in industry 3549.

3544 **Special Dies and Tools, Die Sets, Jigs and Fixtures, and Industrial Molds.**—Establishments commonly known as contract tool and die shops and primarily engaged in manufacturing, on a job or order basis, special tools and fixtures for use with machine tools, hammers, die-casting machines, and presses. The products of establishments classified in this industry include a wide variety of special toolings, such as dies; punches; die sets and components and subpresses; jigs and fixtures; and special checking devices. Establishments primarily engaged in manufacturing molds for die casting and foundry casting; metal molds for plasterworking, rubber working,

plastic working, glassworking and similar machinery are also included. Establishments primarily engaged in manufacturing molds for heavy steel ingots are classified in industry 3321.

3545 **Machine Tool Accessories and Measuring Devices.**—Establishments primarily engaged in manufacturing cutting tools, machinist's precision measuring tools, and attachments and accessories for machine tools and for other metalworking machinery not elsewhere classified. Establishments primarily engaged in manufacturing handtools, except power-driven types, are classified in SIC group 342.

3546 **Power-Driven Handtools.**—Establishments primarily engaged in manufacturing power-driven handtools, such as drills and drilling tools, pneumatic and snagging grinders, and electric hammers. Establishments primarily engaged in manufacturing automotive maintenance equipment are classified in industry 3549; those primarily manufacturing machine tools for metal cutting and metal forming (including home workshop tools) which are not supported in the hands of an operator, are classified in industries 3541 and 3542; and those primarily manufacturing power-driven heavy construction or mining handtools in SIC group 353.

3547 **Rolling Mill Machinery and Equipment.**—Establishments primarily engaged in manufacturing rolling mill machinery and processing equipment for metal production such as cold forming mills, structural mills, and finishing equipment.

3549 **Metalworking Machinery, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing metalworking machinery, not elsewhere classified, such as gas cutting and welding equipment, wire fabricating machinery and equipment, except wire-drawing dies, and automotive maintenance machinery and equipment. Establishments primarily engaged in manufacturing metal-cutting machine tools are classified in industry 3541; metal-forming machine tools in industry 3542; power-driven handtools in industry 3546; and rolling mill machinery in industry 3547.

355 SPECIAL INDUSTRY MACHINERY, EXCEPT METALWORKING MACHINERY

3551 **Food Products Machinery.**—Establishments primarily engaged in manufacturing machinery for use by the food products and beverage manufacturing industries in the preparation, canning, or packaging of food products; and parts and attachments for such machinery. Establishments primarily engaged in manufacturing industrial refrigeration machinery are classified in SIC group 358.

3552 **Textile Machinery.**—Establishments primarily engaged in manufacturing machinery for the textile industries, including parts, attachments, and accessories. Establishments primarily engaged in manufacturing domestic or industrial sewing machines are classified in industry 3636.

3553 **Woodworking Machinery.**—Establishments primarily engaged in manufacturing machinery for sawmills, planing mills, cabinet and furniture makers, patternmakers, and veneer workers. Establishments primarily engaged in manufacturing handtools such as planes, axes, drawknives, and handsaws are classified in SIC group 342; and portable power-driven handtools in industry 3546.

3554 **Paper Industries Machinery.**—Establishments primarily engaged in manufacturing machinery for the pulp, paper, and paper product industries. Establishments primarily engaged in manufacturing printing trades machinery are classified in industry 3555.

3555 **Printing Trades Machinery and Equipment.**—Establishments primarily engaged in manufacturing machinery and equipment used by the printing and bookbinding trades. Establishments primarily engaged in manufacturing textile printing machinery are classified in industry 3552.

3559 **Special Industry Machinery, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing special industry machinery, not elsewhere classified, such as smelting and refining equipment, cementmaking, clayworking, cotton ginning, glassmaking, hatmaking, incandescent lampmaking, leatherworking, paintmaking, rubberworking, cigar and cigarette making, tobacco working, shoemaking, and stoneworking machinery.

356 GENERAL INDUSTRIAL MACHINERY AND EQUIPMENT

3561 **Pumps and Pumping Equipment.**—Establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial use. Establish-

ments primarily engaged in manufacturing measuring and dispensing pumps for gasoline service station use are classified in industry 3586; and air and gas compressors in industry 3563.

3562 Ball and Roller Bearings.—Establishments primarily engaged in manufacturing ball and roller bearings (including ball or roller bearing pillow block, flange, take-up cartridge, and hanger units) and parts. Establishments primarily engaged in manufacturing bearings, except ball and roller, are classified in industry 3568.

3563 Air and Gas Compressors.—Establishments primarily engaged in manufacturing air and gas compressors for general industrial use. Establishments primarily engaged in manufacturing refrigeration compressors and compressing units are classified in industry 3585; and pumps and pumping equipment in industry 3561.

3564 Blowers and Exhaust and Ventilation Fans.—Establishments primarily engaged in manufacturing industrial and commercial blowers, industrial and commercial exhaust and ventilating fans, and attic fans. Establishments primarily engaged in manufacturing air-conditioning units are classified in industry 3585, and free air-circulating fans for use on desks, pedestals, or wall brackets as well as household window-type fans and roll-abouts, kitchen and household ventilating and exhaust fans in industry 3634.

3565 Industrial Patterns.—Establishments primarily engaged in manufacturing industrial patterns.

3566 Speed Changers, Industrial High Speed Drives, and Gears.—Establishments primarily engaged in manufacturing speed changers, industrial high-speed drives, and gears. Establishments primarily engaged in manufacturing these items for motor vehicles are classified in industry 3714, and for aircraft in industry 3728.

3567 Industrial Process Furnaces and Ovens.—Establishments primarily engaged in manufacturing industrial process furnaces, ovens, induction and dielectric heating equipment, and related devices.

3568 Mechanical Power Transmission Equipment, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing mechanical power transmission equipment and parts for industrial machinery. Establishments primarily engaged in manufacturing automotive, tank, and tractor power transmission equipment are classified in industry 3714; aircraft power transmission equipment in industry 3728; ball and roller bearings in industry 3562; and speed changers, industrial high speed drives, and gears in industry 3566.

3569 General Industrial Machinery and Equipment, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing machinery, equipment, and components for general industrial use, and for which no special classification is provided. Machine shops primarily engaged in producing machine and equipment parts, usually on a job or order basis, are classified in industry 3599.

357 OFFICE, COMPUTING, AND ACCOUNTING MACHINES

3572 and 3579 Typewriters and Office Machines, Not Elsewhere Classified.—The Typewriters Industry includes establishments primarily engaged in manufacturing typewriters and parts, including coded media typewriters and specialized composing typewriters. This industry is combined with the Office Machines, N.E.C., Industry which includes establishments primarily engaged in manufacturing office machines and devices not elsewhere classified. Establishments primarily engaged in manufacturing computing machines are classified in industry 3573, cash registers in industry 3574, and photocopy and microfilm equipment in industry 3861 (Photographic Equipment and Supplies).

The classification of establishments for which data are tabulated in this report is based upon the definitions and coding structure contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President. The statistics for these industries as classified under the 1972 edition of the SIC manual were unchanged as to code number or content from the previous classification system. However, it was necessary to combine industry 3572, Typewriters, with industry 3579, Office Machines, N.E.C., to avoid disclosing the operation of individual companies.

3573 Electronic Computing Equipment.—Establishments primarily engaged in manufacturing electronic computers and peripheral equipment and/or major

logical components intended for use in electronic computer systems. Included are general-purpose electronic analog computers, electronic digital computers, military, ruggedized, and special purpose computers. The electronic computers may be used for data processing or may be incorporated as components of control equipment for industrial use, and as components of equipment used in weapons and weapons systems, space and oceanographic exploration, and transportation and other systems. Electronic computer systems contain high-speed arithmetic and program control units, on-line information storage devices, input/output equipment, terminals, data communication devices, and punched card equipment. Examples of input/output equipment are converters (card and/or tape) and readers and printers. Examples of storage devices are magnetic drums and disks magnetic cores and magnetic film memories. In addition to providing technical manuals necessary for the operation and maintenance of the equipment, establishments in this industry usually furnish general-purpose computer programs and basic operating systems programs needed for effective use of the computer system. Establishments primarily producing rebuilt electronic computers are also included in this industry. Establishments primarily engaged in manufacturing desk calculators, cash registers, accounting machines and similar equipment that are operator-paced are classified in industry 3574; electrical and electronic test equipment in industry 3825; industrial controls, including electronic, in industry 3622; and industrial process instruments in industry 3823.

3574 **Calculating and Accounting Machines, Except Electronic Computing Equipment.**—Establishments primarily engaged in manufacturing desk calculators, adding and accounting machines, cash registers, and similar equipment. Included are electronic calculating and accounting machines which, even when augmented by attachments or which include program control or have input/output capabilities, must be paced by operator intervention. Establishments primarily engaged in manufacturing electronic computing equipment are classified in industry 3573; typewriters in industry 3572; and office duplicating machines and devices, autographic registers, and other office machines in industry 3579.

3576 **Scales and Balances, Except Laboratory.**—Establishments primarily engaged in manufacturing weighing and force measuring machines and devices of all types, except those regarded as scientific apparatus for laboratory and experimental work, which are classified in industry 3811.

3579 **Typewriters and Office Machines, Not Elsewhere Classified.**—(See 3572.)

358 REFRIGERATION AND SERVICE INDUSTRY MACHINERY

3581 **Automatic Merchandising Machines.**—Establishments primarily engaged in manufacturing automatic merchandising units, also referred to as vending machines (excluding music, amusement, or gaming machines), and coin-operated mechanisms for such machines.

3582 **Commercial Laundry, Dry Cleaning, and Pressing Machines.**—Establishments primarily engaged in manufacturing laundry and dry cleaning equipment and pressing machines for commercial and industrial use. Establishments primarily engaged in manufacturing household laundry equipment, including coin-operated washers and driers, are classified in industry 3633.

3585 **Air-Conditioning and Warm-Air Heating Equipment and Commercial and Industrial Refrigeration Equipment.**—Establishments primarily engaged in manufacturing refrigeration equipment and systems and similar equipment for commercial and industrial use; complete air-conditioning units for domestic, commercial, and industrial use; and warm-air furnaces, except electric. Establishments primarily engaged in manufacturing soda fountains and beer dispensing equipment and humidifiers and dehumidifiers, except for rooms, are also classified in this industry. Establishments primarily engaged in manufacturing household refrigerators and home and farm freezers are classified in industry 3632; electric air space heaters in industry 3634; and electric warm-air furnaces and other electric comfort heating equipment in industry 3699.

3586 **Measuring and Dispensing Pumps.**—Establishments primarily engaged in manufacturing measuring and dispensing pumps commonly used in service and filling stations for dispensing gasoline, oil, and grease, including grease guns. Establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial use are classified in industry 3561.

3589 **Service Industry Machines, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing machines and equipment, not elsewhere classified, for use in service industries, such as floor sanding machines, industrial vacuum cleaners, scrubbing machines, commercial cooking and food warming equipment, and commercial dishwashing machines. Establishments primarily engaged in manufacturing household electrical appliances are classified in group 363.

359 MISCELLANEOUS MACHINERY, EXCEPT ELECTRICAL

3592 **Carburetors, Pistons, Piston Rings, and Valves.**—Establishments primarily engaged in manufacturing carburetors, pistons, piston rings, and valves. Establishments primarily engaged in manufacturing metallic packing are classified in industry 3293; and those primarily engaged in manufacturing machine repair and equipment parts (except electric), on a job or order basis for others, are classified in industry 3599.

3599 **Machinery, Except Electrical, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing machinery and parts except electrical, not elsewhere classified, such as amusement park equipment, pneumatic and hydraulic cylinders, and flexible metal hose and tubing. This industry also includes establishments primarily engaged in producing or repairing machine and equipment parts, not elsewhere classified, on a job or order basis for others.

36 ELECTRICAL AND ELECTRONIC MACHINERY, EQUIPMENT, AND SUPPLIES

This major group includes establishments engaged in manufacturing machinery, apparatus, and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy. The manufacture of household appliances is included in this group, but industrial machinery and equipment powered by built-in or detachable electric motors is classified in SIC Major Group 35. Establishments primarily engaged in manufacturing instruments for indicating, measuring, and recording electrical quantities are classified in industry 3825.

361 ELECTRIC TRANSMISSION AND DISTRIBUTION EQUIPMENT

3612 **Power, Distribution, and Specialty Transformers.**—Establishments primarily engaged in manufacturing power, distribution, instrument, and specialty transformers. Establishments primarily engaged in manufacturing radio frequency or voice frequency transformers, coils, or chokes are classified in industry 3677, and resistance welder transformers in industry 3623.

3613 **Switchgear and Switchboard Apparatus.**—Establishments primarily engaged in manufacturing switchgear and switchboard apparatus. Important products of this industry include power switches, circuit breakers, power switching equipment, and similar switchgear for general industrial application; switchboards and cubicles, control and metering panels, power fuse mountings, and similar switchboard apparatus and supplies. Establishments primarily engaged in manufacturing industrial controls are classified in industry 3622, and those manufacturing current-carrying wiring devices in industry 3643.

362 ELECTRICAL INDUSTRIAL APPARATUS

3621 **Motors and Generators.**—Establishments primarily engaged in manufacturing electric motors (except starting motors) and power generators; motor generator sets; railway motors and control equipment; and motors, generators, and control equipment for gasoline, electric, and oil-electric buses and trucks. Establishments primarily engaged in manufacturing turbo-generators are classified in industry 3511, and starting motors and battery charging generators for internal combustion engines in industry 3694.

3622 **Industrial Controls.**—Establishments primarily engaged in manufacturing motor starters and controllers; control accessories, electronic controls, and other industrial controls. Establishments primarily engaged in manufacturing automatic temperature controls are classified in industry 3822, and industrial process instruments in industry 3823.

3623 **Welding Apparatus, Electric.**—Establishments primarily engaged in manufacturing electric welding apparatus and accessories. Establishments primarily engaged in coating welding wire from purchased wire or from wire drawn in the same establishment are also included. Establishments primarily engaged

in manufacturing gas welding apparatus are classified in industry 3549, and laser, electron beam, and ultrasonic welding machines and equipment in industry 3662.

3624 **Carbon and Graphite Products.**—Establishments primarily engaged in manufacturing lighting carbons; carbon, graphite, and metal-graphite brushes and brush stock; carbon or graphite electrodes for thermal and electrolytic uses; and other carbon, graphite, and metal-graphite products.

3629 **Electrical Industrial Apparatus, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing industrial and commercial electric apparatus and equipment, not elsewhere classified, such as blasting machines, and fixed and variable capacitors, condensers, and rectifiers for industrial applications. Establishments primarily engaged in manufacturing condensers, capacitors, and rectifiers for electronic end products are classified in SIC group 367.

363 HOUSEHOLD APPLIANCES

3631 **Household Cooking Equipment.**—Establishments primarily engaged in manufacturing household cooking equipment, such as stoves, ranges, and ovens, including both electric and nonelectric types. Establishments primarily engaged in manufacturing household cooking appliances, such as hot plates, grills, percolators, and toasters, are classified in industry 3634. Establishments primarily engaged in manufacturing commercial cooking equipment are classified in industry 3589.

3632 **Household Refrigerators and Home and Farm Freezers.**—Establishments primarily engaged in manufacturing household refrigerators and home and farm freezers. Establishments primarily engaged in manufacturing commercial and industrial refrigeration equipment, packaged room coolers, and all refrigeration compressor and condenser units are classified in industry 3585, and room dehumidifiers are classified in industry 3634.

3633 **Household Laundry Equipment.**—Establishments primarily engaged in manufacturing laundry equipment, such as washing machines, wringers, driers, and ironers, for household use. This industry also includes coin-operated washers and driers. Establishments primarily engaged in manufacturing commercial laundry equipment are classified in industry 3582.

3634 **Electric Housewares and Fans.**—Establishments primarily engaged in manufacturing electric housewares for heating, cooking, and other purposes; and electric fans, including ventilating and exhaust household-type fans. Important products of this industry include electric air heaters, electrically heated bed coverings, blenders, broilers, deep-fat fryers, flat irons, food mixers, hot plates, percolators and coffeemakers, roasters, toasters, desk and bracket fans, hassock or floor fans, window-type propeller fans, roll-about fans and household and kitchen ventilating and exhaust fans. Establishments primarily engaged in manufacturing industrial and commercial blowers, industrial and commercial exhaust and ventilating fans, and attic fans are classified in industry 3564.

3635 **Household Vacuum Cleaners.**—Establishments primarily engaged in manufacturing vacuum cleaners for household use. Establishments primarily engaged in manufacturing vacuum cleaners for industrial use are classified in industry 3589, and built-in vacuum cleaner systems in industry 1796.

3636 **Sewing Machines.**—Establishments primarily engaged in manufacturing sewing machines for domestic and industrial use.

3639 **Household Appliances, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing household appliances, not elsewhere classified, such as water heaters, dishwashers, and food waste disposal units.

364 ELECTRIC LIGHTING AND WIRING EQUIPMENT

3641 **Electric Lamps.**—Establishments primarily engaged in manufacturing electric bulbs, tubes, and related light sources. Important products of this industry include incandescent filament lamps, vapor and fluorescent lamps, photoflash and photoflood lamps, electrotherapeutic lamp units for ultra-violet and infra-red radiation, and other electric light sources. Establishments primarily engaged in manufacturing glass blanks for bulbs are classified in industry 3229; and lamp components, such as supports, filaments, lead-in wires, and cold cathode fluorescent lamp electrodes, in industry 3699.

3643 **Current-Carrying Wiring Devices.**—Establishments primarily engaged in manufacturing current-carrying wiring devices. Important products of this industry include attachment plugs and caps, convenience outlets, lamp sockets and receptacles, snap switches, conductor connectors, overhead trolley line material, rail bonds for both propulsion and signal circuits, lightning arrestors, and other lightning protective equipment.

3644 **Noncurrent-Carrying Wiring Devices.**—Establishments primarily engaged in manufacturing noncurrent-carrying wiring devices. Important products of this industry include conduits and fittings; electrical insulators and insulation materials, except porcelain insulators (industry 3264) and glass insulators (industry 3229); outlet, switch and fuse boxes; and pole line hardware.

3645 **Residential Electric Lighting Fixtures.**—Establishments primarily engaged in manufacturing residential electric lighting fixtures and equipment, fixed or portable. Establishments primarily engaged in producing glassware for lighting fixtures are classified in SIC Major Group 32; electric light bulbs, tubes, and related light sources in industry 3641; lampshades except glass and metal in industry 3999; and nonelectric fixtures and portable electric flashlights, lanterns, and similar lamps in industry 3648.

3646 **Commercial, Industrial, and Institutional Electric Lighting Fixtures.**—Establishments primarily engaged in manufacturing commercial, industrial, and institutional electric lighting fixtures. Establishments primarily engaged in producing glassware for lighting fixtures are classified in SIC Major Group 32; residential lighting fixtures in industry 3645; and vehicular lighting fixtures in industry 3647.

3647 **Vehicular Lighting Equipment.**—Establishments primarily engaged in manufacturing vehicular lighting equipment.

3648 **Lighting Equipment, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing lighting fixtures and equipment, electric and nonelectric, not elsewhere classified, including flashlights and similar portable lamps, searchlights, ultraviolet lamp fixtures, and infra-red lamp fixtures. Establishments primarily engaged in manufacturing electric light bulbs, tubes, and related light sources are classified in industry 3641, and those producing glassware for lighting fixtures are classified in SIC Major Group 32.

365 RADIO AND TELEVISION RECEIVING EQUIPMENT, EXCEPT COMMUNICATION TYPES

3651 **Radio and Television Receiving Sets, Except Communication Types.**—Establishments primarily engaged in manufacturing electronic equipment for home entertainment, including auto radios and tape players. This industry also includes establishments primarily engaged in manufacturing public address systems and music distribution apparatus. Establishments primarily engaged in manufacturing phonograph records and prerecorded tape are classified in industry 3652. Establishments primarily engaged in manufacturing separate cabinets for home electronic equipment are classified in SIC Major Group 25.

3652 **Phonograph Records and Prerecorded Magnetic Tape.**—Establishments primarily engaged in manufacturing phonograph records and prerecorded magnetic tape. Establishments primarily engaged in manufacturing electronic equipment for home entertainment, except records and prerecorded magnetic tape, are classified in industry 3651.

366 COMMUNICATION EQUIPMENT

3661 **Telephone and Telegraph Apparatus.**—Establishments primarily engaged in manufacturing wire telephone and telegraph equipment and parts especially designed for telephone and telegraph use.

3662 **Radio and Television Transmitting, Signaling, and Detection Equipment and Apparatus.**—Establishments primarily engaged in manufacturing (1) radio and television broadcasting equipment; (2) electric communication equipment and parts, except telephone and telegraph; (3) electronic field detection apparatus, light and heat emission operating apparatus, object detection apparatus and navigational electronic equipment, and aircraft and missile control systems; (4) high-energy particle accelerator systems and equipment designed and sold as a complete package for radiation therapy, irradiation, radiographic inspection, and research (linear accelerators, betatrons, dynamotrons, Vandergraff generators, resonant transformers, insulating core transformers, etc.); (5) high-energy particle electronic equipment and accessories sold separately for the construction of linear accelerators, cyclotrons, synchrotrons, and other high-energy research installations (transmitters/modulators, accelerating wave-

guide structures, pulsed electron guns, vacuum systems, cooling systems, etc.); and (6) other electric and electronic communication and signaling products not elsewhere classified. Establishments primarily engaged in manufacturing transmitting tubes are classified in industry 3673.

367 ELECTRONIC COMPONENTS AND ACCESSORIES

3671 Radio and Television Receiving-Type Electron Tubes, Except Cathode Ray.—Establishments primarily engaged in manufacturing radio and television receiving-type electron tubes, except cathode ray tubes. Establishments primarily engaged in manufacturing television receiving-type cathode ray tubes are classified in industry 3672; transmitting tubes in industry 3673; and X-ray tubes in industry 3693.

3672 Cathode Ray Television Picture Tubes.—Establishments primarily engaged in manufacturing television receiving-type cathode ray tubes. Establishments primarily engaged in manufacturing other radio and television receiving-type electron tubes are classified in industry 3671; and transmitting tubes in industry 3673.

3673 Transmitting, Industrial, and Special Purpose Electron Tubes.—Establishments primarily engaged in manufacturing transmitting, industrial, and special purpose electron tubes. Establishments primarily engaged in manufacturing radio and television receiving tubes are classified in industry 3671; television receiving-type cathode ray tubes in industry 3672; and X-ray tubes in industry 3693.

3674 Semiconductors and Related Devices.—Establishments primarily engaged in manufacturing semiconductor and related solid state devices, such as semiconductor diodes and stacks, including rectifiers, integrated microcircuits (semiconductor networks), transistors, solar cells, and light sensing and emitting semiconductor (solid state) devices.

3675 Electronic Capacitors.—Establishments primarily engaged in manufacturing electronic capacitors.

3676 Resistors, for Electronic Applications.—Establishments primarily engaged in manufacturing resistors for electronic end products. Establishments primarily engaged in manufacturing resistors for telephone and telegraph apparatus are classified in industry 3661.

3677 Electronic Coils, Transformers, and Other Inductors.—Establishments primarily engaged in manufacturing electronic coils, transformers, and inductors. Establishments primarily engaged in manufacturing transformers and inductors for telephone and telegraph apparatus are classified in industry 3661; electric lamps in industry 3641; and semiconductor (solid state) and related devices in industry 3674.

3678 Connectors, for Electronic Applications.—Establishments primarily engaged in manufacturing electronic connectors. Establishments primarily engaged in manufacturing electronic capacitors are classified in industry 3675; and electronic coils, transformers, and other inductors in industry 3677.

3679 Electronic Components, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing electronic components, not elsewhere classified, such as receiving antennas, printed circuits, switches, and wave guides.

369 MISCELLANEOUS ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES

3691 Storage Batteries.—Establishments primarily engaged in manufacturing storage batteries.

3692 Primary Batteries, Dry and Wet.—Establishments primarily engaged in manufacturing primary batteries, dry or wet.

3693 Radiographic X-ray, Fluoroscopic X-ray, Therapeutic X-ray, and Other X-ray Apparatus and Tubes; Electromedical and Electrotherapeutic Apparatus.—Establishments primarily engaged in manufacturing radiographic X-ray, fluoroscopic X-ray, and therapeutic X-ray apparatus and tubes for medical, industrial, research and control applications. This industry also includes establishments primarily engaged in manufacturing electromedical and electrotherapeutic apparatus except electrotherapeutic lamp units for ultra-violet and infra-red radiation (industry 3641). Establishments primarily engaged in manufacturing radio receiving-type tubes are classified in industry 3671; television receiving cathode ray tubes in industry 3672; and transmitting tubes in industry 3673.

3694 Electrical Equipment for Internal Combustion Engines.—Establishments primarily engaged in manufacturing electrical equipment for internal combustion engines. Important products of this industry

include armatures, starting motors, alternators, and generators for automobiles and aircraft; and ignition apparatus for internal combustion engines, including spark plugs, magnetos, coils, and distributors.

3699 **Electrical Machinery, Equipment, and Supplies, Not Elsewhere Classified.**—Establishments primarily in manufacturing electrical machinery, equipment, and supplies, not elsewhere classified, such as appliance and extension cords, bells and chimes, and insect traps.

37 TRANSPORTATION EQUIPMENT

This major group includes establishments engaged in manufacturing equipment for transportation of passengers and cargo by land, air, and water. Important products produced by establishments classified in this major group include motor vehicles, aircraft, guided missiles and space vehicles, ships, boats, railroad equipment, and miscellaneous transportation equipment such as motorcycles, bicycles, and snowmobiles. Establishments primarily engaged in manufacturing mobile homes are classified in industry 2451.

371 MOTOR VEHICLES AND MOTOR VEHICLE EQUIPMENT

3711 **Motor Vehicles and Car Bodies.**—This industry comprises establishments primarily engaged in the manufacture of passenger cars, passenger car bodies, trucks, buses, and wheeled combat vehicles. Complete car chassis and complete truck chassis, with or without cab, are also included in this industry. Establishments primarily engaged in the manufacture of trucks or buses on purchased chassis are classified in industry 3713; tanks, self-propelled weapons, and other military vehicles in industry 3795; and motor homes produced on purchased chassis in industry 3716.

3713 **Truck and Bus Bodies.**—Establishments primarily engaged in manufacturing truck and bus bodies for sale separately or for assembly on purchased chassis. Establishments primarily engaged in manufacturing complete trucks and buses are classified in industry 3711, stamped body parts for trucks and buses in industry 3465, and truck trailers and demountable cargo containers in industry 3715.

3714 **Motor Vehicle Parts and Accessories.**—Establishments primarily engaged in manufacturing motor vehicle parts and accessories, but not engaged in manufacturing complete motor vehicles or passenger car bodies. Establishments primarily engaged in manufacturing or assembling complete automobiles and trucks are classified in industry 3711, tires and tubes in industry 3011, automobile glass in SIC Major Group 32, automobile stampings in industry 3465, ignition systems in industry 3694, storage batteries in industry 3691, and carburetors, pistons, rings, and valves in industry 3592.

3715 **Truck Trailers.**—Establishments primarily engaged in manufacturing truck trailers, truck trailer chassis for sale separately, detachable trailer bodies (cargo containers) for sale separately, and detachable trailer (cargo container) chasis for sale separately.

3716 **Motor Homes Produced on Purchased Chassis.**—This industry comprises establishments primarily engaged in the manufacture of motor homes produced on purchased chassis. Establishments primarily engaged in the manufacture of motor homes produced on chassis of own manufacture are classified in industry 3711.

The Motor Homes Produced on Purchased Chassis is included for the first time in the 1977 census.

372 AIRCRAFT AND PARTS

3721 **Aircraft.**—Establishments primarily engaged in manufacturing or assembling complete aircraft. This industry also includes establishments primarily engaged in research and development on aircraft or in factory-type aircraft modification on a contract or fee basis. Establishments primarily engaged in manufacturing engines, propellers, and other aircraft parts and auxiliary equipment are classified in industries 3724 and 3728; and those producing guided missiles and space vehicles and parts are classified in SIC group 376.

3724 **Aircraft Engines and Engine Parts.**—Establishments primarily engaged in manufacturing aircraft engines and engine parts. Research and development on aircraft engines is included in this industry. Establishments primarily engaged in manufacturing guided missile and space vehicle propulsion units and parts are classified in industry 3764.

3728 **Aircraft Parts and Auxiliary Equipment, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing aircraft parts and auxiliary equip-

ment not elsewhere classified. Research and development on aircraft parts is included in this industry. Establishments primarily engaged in manufacturing or assembling complete aircraft are classified in industry 3721, aircraft engines and parts in industry 3724, aeronautical instruments in industry 3811, aeronautical electrical equipment in industry 3694, and guided missile and space vehicle parts and auxiliary equipment in industry 3769.

373 SHIP AND BOAT BUILDING AND REPAIRING

3731 Ship Building and Repairing.—Establishments primarily engaged in building and repairing all types of ships, barges, and lighters, whether propelled by sail or motor power or towed by other craft. This industry also includes the conversion and alteration of ships. Establishments primarily engaged in fabricating structural assemblies or components for ships, or subcontractors engaged in ship painting, joinery, carpentry work, electrical wiring installation, etc., are classified in other industries.

3732 Boat Building and Repairing.—Establishments primarily engaged in building and repairing all types of boats. Establishments primarily engaged in cleaning and storing boats and in the rental of dock space and yacht clubs are classified in nonmanufacturing industries. Establishments primarily engaged in manufacturing rubber and nonrigid plastic boats are classified in SIC Major Group 30.

374 RAILROAD EQUIPMENT

3743 Railroad Equipment.—Establishments primarily engaged in building and rebuilding locomotives (including frames and parts not elsewhere classified) of any type or gage; and railroad, street, and rapid transit cars and car equipment for operation on rails for freight and passenger service. This industry also includes establishments primarily engaged in manufacturing trackless trolley buses. Establishments primarily engaged in manufacturing mining cars are classified in industry 3532. Repair shops, owned and operated by railroads or local transit companies, rebuilding or repairing locomotives or cars, or building new locomotives or cars for their own account, are classified in SIC Major Groups 40 and 41.

375 MOTORCYCLES, BICYCLES, AND PARTS

3751 Motorcycles, Bicycles, and Parts.—Establishments primarily engaged in manufacturing motorcycles, bicycles, and similar equipment and parts. Establishments primarily engaged in assembling motorcycles or bicycles from purchased parts are also included in this industry. Establishments primarily engaged in manufacturing children's vehicles, except bicycles, are classified in industry 3944. Establishments primarily engaged in manufacturing golf carts and other similar personnel carriers are classified in industry 3799.

376 GUIDED MISSILES AND SPACE VEHICLES AND PARTS

3761 Guided Missiles and Space Vehicles.—Establishments primarily engaged in manufacturing complete guided missiles and space vehicles. Research and development and other services on or for guided missiles and space vehicles are included in this industry. Establishments primarily engaged in manufacturing guided missile and space vehicle propulsion units and propulsion unit parts are classified in industry 3764; space satellite and guided missile and space vehicle airborne and ground guidance, checkout, and launch electronic systems and components in industry 3662; and guided missile and space vehicle airframes, nose cones, and space capsules in industry 3769.

3764 Guided Missile and Space Vehicle Propulsion Units and Propulsion Unit Parts.—Establishments primarily engaged in manufacturing guided missile propulsion units and propulsion unit parts. Research and development on guided missile and space vehicle propulsion units and propulsion unit parts is also included in this industry.

3769 Guided Missile and Space Vehicle Parts and Auxiliary Equipment, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing guided missile and space vehicle parts and auxiliary equipment not elsewhere classified. Research and development on guided missile and space vehicle parts and auxiliary equipment, not elsewhere classified, is also included in this industry. Establishments primarily engaged in manufacturing navigational and guidance systems are classified in industry 3662.

379 MISCELLANEOUS TRANSPORTATION EQUIPMENT

3792 Travel Trailers and Campers.—Establishments primarily engaged in manufacturing travel trailers for attachment to passenger cars or other vehicles, pickup coaches (campers) or caps (covers) for mounting on pickup trucks and self-contained motor homes. Travel trailers are generally 35 feet long or less, 8 feet wide or less, and have storage facilities for water and waste. Establishments primarily engaged in manufacturing mobile homes are classified in industry 2451.

3795 Tanks and Tank Components.—Establishments primarily engaged in manufacturing or assembling complete tanks and specialized components for tanks. Establishments primarily engaged in manufacturing military vehicles other than tanks are classified in SIC group 371, and tank engines in industry 3519.

3799 Transportation Equipment, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing transportation equipment not elsewhere classified. Establishments primarily engaged in manufacturing industrial trucks, tractors, trailers, and stackers are classified in industry 3537, and children's vehicles except bicycles in industry 3944.

38 MEASURING, ANALYZING, AND CONTROLLING INSTRUMENTS; PHOTOGRAPHIC, MEDICAL, AND OPTICAL GOODS; WATCHES AND CLOCKS

This major group includes establishments engaged in manufacturing instruments (including professional and scientific) for measuring, testing, analyzing, and controlling, and their associated sensors and accessories; optical instruments and lenses; surveying and drafting instruments; surgical, medical, and dental instruments, equipment, and supplies; opthalmic goods; photographic equipment and supplies; and watches and clocks.

381 ENGINEERING, LABORATORY, SCIENTIFIC, AND RESEARCH INSTRUMENTS AND ASSOCIATED EQUIPMENT

3811 Engineering, Laboratory, Scientific, and Research Instruments and Associated Equipment.—Establishments primarily engaged in manufacturing engineering, laboratory, and scientific instruments, including nautical, navigational, aeronautical, surveying, and drafting equipment and instruments for laboratory work and scientific research (except optical instruments—industry 3832). Establishments primarily engaged in manufacturing surgical and medical instruments are classified in industry 3841; dental instruments and equipment in industry 3843; measuring, analyzing, and controlling instruments, including instruments for measuring electrical quantities and characteristics, in SIC group 382; watches and clocks in industry 3873; machinists' precision measuring tools in industry 3545; and measuring and dispensing pumps in industry 3586.

382 MEASURING AND CONTROLLING INSTRUMENTS

3822 Automatic Controls for Regulating Residential and Commercial Environments and Appliances.—Establishments primarily engaged in manufacturing temperature and related controls for heating and air-conditioning installations and refrigeration applications, which are electrically, electronically, or pneumatically actuated, and which measure and control variables such as temperature and humidity; and automatic regulators used as components of household appliances. Establishments primarily engaged in manufacturing industrial process controls are classified in industry 3823; motor control switches in industry 3622, switches for household appliances in industry 3643, and appliance timers in industry 3873.

3823 Industrial Instruments for Measurement, Display, and Control of Process Variables; and Related Products.—Establishments primarily engaged in manufacturing industrial instruments and related products for measuring, displaying (indicating and/or recording), transmitting, and controlling process variables in manufacturing, energy conversion, and public service utilities. These instruments operate mechanically, pneumatically, electronically, or electrically to measure process variables such as temperature, humidity, pressure, vacuum, combustion, flow, level, viscosity, density, acidity, alkalinity, specific gravity, gas and liquid concentration, sequence, time interval, mechanical motion, and rotation. Establishments primarily engaged in manufacturing electrical integrating meters are classified in industry 3825; residential and commercial comfort controls in industry 3822; all liquid-in-glass and bimetal thermometers and glass hydrometers in industry 3829; recorder charts in SIC group 275, and optical instruments in industry 3832.

3824 Totalizing Fluid Meters and Counting Devices.—Establishments primarily engaged in manufacturing totalizing (registering) meters, monitoring fluid flows, such as watermeters and gasmeters; and producers of mechanical and electromechanical counters and associated metering devices. Establishments primarily engaged in manufacturing electricity integrating meters and electronic frequency counters are classified in industry 3825; and industrial process instruments in industry 3823.

3825 Instruments for Measuring and Testing of Electricity and Electrical Signals.—Establishments primarily engaged in manufacturing instruments for measuring the characteristics of electricity and electrical signals, such as voltmeters, ammeters, watt-meters, watt-hour meters, demand meters, and equipment for testing the electrical characteristics of electrical, radio, and communication circuits and of internal combustion engines. Establishments primarily engaged in the manufacturing of electronic checkout, monitoring, evaluating, and other electronic support equipment for electronic navigational, radar, sonar, and other communications systems are classified in industry 3662.

3829 Measuring and Controlling Devices, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing measuring and controlling devices, not elsewhere classified, including testing instruments to determine the physical properties of materials, nuclear instruments, aircraft engine instruments, and liquid-in-glass and bimetal thermometers.

383 OPTICAL INSTRUMENTS AND LENSES

3832 Optical Instruments and Lenses.—Establishments primarily engaged in manufacturing instruments that measure an optical property; apparatus, except photographic, that projects or magnifies, such as binoculars, prisms, and lenses; optical sighting and fire control equipment; and related analytical instruments. Establishments primarily engaged in manufacturing eyeglass lenses, frames, or fittings are classified in industry 3851; separate computers in industry 3573; and electronic tracking and fire control systems in industry 3662.

384 SURGICAL, MEDICAL, AND DENTAL INSTRUMENTS AND SUPPLIES

3841 Surgical and Medical Instruments and Apparatus.—Establishments primarily engaged in manufacturing medical, surgical, ophthalmic, and veterinary instruments and apparatus. Establishments primarily engaged in manufacturing surgical and orthopedic appliances are classified in industry 3842; and electrotherapeutic, electromedical, and X-ray apparatus in industry 3693.

3842 Orthopedic, Prosthetic, and Surgical Appliances and Supplies.—Establishments primarily engaged in manufacturing orthopedic, prosthetic, and surgical appliances and supplies, arch supports, and other foot appliances; fracture appliances, elastic hosiery, abdominal supporters, braces, and trusses; bandages; surgical gauze and dressings; sutures; adhesive tapes and medicated plasters; and personal safety appliances and equipment. Establishments primarily engaged in manufacturing surgical and medical instruments are classified in industry 3841. Establishments primarily engaged in manufacturing appliances and in the personal fitting to the individual prescription of a physician are classified in trade industries.

3843 Dental Equipment and Supplies.—Establishments primarily engaged in manufacturing artificial teeth, dental metals, alloys and amalgams, and a wide variety of equipment, instruments, and supplies used by dentists, dental laboratories, and dental colleges. Dental laboratories constructing artificial dentures, bridges, inlays, and other dental restorations on specifications from dentists are classified in industry 8072.

385 OPHTHALMIC GOODS

3851 Ophthalmic Goods.—Establishments primarily engaged in manufacturing opthalmic frames, lenses, and sunglass lenses. Establishments primarily engaged in manufacturing slit lamps are classified in industry 3841, and molded glass blanks in industry 3229. Establishments primarily engaged in grinding lenses and fitting glasses to prescription are classified in trade.

386 PHOTOGRAPHIC EQUIPMENT AND SUPPLIES

3861 Photographic Equipment and Supplies.—Establishments primarily engaged in manufacturing (1) photographic apparatus, equipment, parts, attachments, and accessories, such as still and motion

picture cameras and projection apparatus; photocopy and microfilm equipment; blueprinting and diazotype (white printing) apparatus and equipment; and other photographic equipment; and (2) sensitized film, paper, cloth, plates, and prepared photographic chemicals for use therewith. Establishments primarily engaged in manufacturing photographic paper stock (unsensitized), and paper mats, mounts, easels, and folders for photographic use are classified in SIC Major Group 26; photographic lenses in industry 3832; photographic glass in SIC Major Group 32; chemicals for technical purposes, not specifically prepared and packaged for use in photography, in SIC Major Group 28; and photographic flash, flood enlarger, and projection lamps in industry 3641.

387 WATCHES, CLOCKS, CLOCKWORK OPERATED DEVICES, AND PARTS

3873 **Watches, Clocks, Clockwork Operated Devices, and Parts.**—Establishments primarily engaged in manufacturing clocks (including electric), watches, watchcases, mechanisms for clockwork operated devices, and clock and watch parts. This industry includes establishments primarily engaged in assembling clocks and watches from purchased movements and cases. Establishments primarily engaged in manufacturing time clocks are classified in industry 3579, glass crystals in industry 3231, and unbreakable crystals in industry 3079.

39 MISCELLANEOUS MANUFACTURING INDUSTRIES

This major group includes establishments primarily engaged in manufacturing products not classified in any other manufacturing group. Industries in this group fall into the following categories: Jewelry, silverware and plated ware; musical instruments; toys, sporting and athletic goods; pens, pencils, and other office and artists' materials; buttons, costume novelties, miscellaneous notions; brooms and brushes; caskets; and other miscellaneous manufacturing industries.

391 JEWELRY, SILVERWARE, AND PLATED WARE

3911 **Jewelry, Precious Metal.**—Establishments primarily engaged in manufacturing jewelry and other articles worn on or carried about the person, made of precious metals with or without stones (including the setting of stones where used), including cigarette cases and lighters, vanity cases and compacts; trimmings for umbrellas and canes; and jewel settings and mountings. Establishments primarily engaged in manufacturing costume jewelry from nonprecious metals and other materials are classified in industry 3961.

3914 **Silverware, Plated Ware, and Stainless Steel Ware.**—Establishments primarily engaged in manufacturing flatware (including knives, forks, and spoons), hollowware, toiletware, ecclesiastical ware, and related products made of sterling silver; of metal plated with silver, gold, or other metal; of nickel silver; of pewter; or of stainless steel.

3915 **Jewelers' Findings and Materials and Lapidary Work.**—Establishments primarily engaged in manufacturing unassembled jewelry parts, and stock shop products such as sheet, wire, and tubing; and establishments of lapidaries primarily engaged in cutting, slabbing, tumbling, carving, engraving, polishing, or faceting stones from natural or manmade precious or semiprecious gem raw materials, either for sale or on a contract basis for the trade; in recutting, repolishing, and setting gem stones; or in cutting, drilling, and otherwise preparing jewels for instruments, dies, watches, chronometers, and other industrial uses. This industry includes the drilling, sawing, and peeling of real or cultured pearls, but does not include the manufacture of artificial pearls (industry 3961).

393 MUSICAL INSTRUMENTS

3931 **Musical Instruments.**—Establishments primarily engaged in manufacturing pianos, with or without player attachments; organs; other musical instruments; and parts and accessories for musical instruments.

394 TOYS AND AMUSEMENT, SPORTING, AND ATHLETIC GOODS

3942 **Dolls.**—Establishments primarily engaged in manufacturing dolls, doll parts, and doll clothing. Establishments primarily engaged in manufacturing stuffed toy animals are also included in this industry.

3944 **Games, Toys, and Children's Vehicles; Except Dolls and Bicycles.**—Establishments primarily engaged in manufacturing games and game sets for adults and children, and mechanical and nonmechanical toys. Important products of this industry include games such as chess, checkers, dominoes, puzzles, and other indoor games; and toys, such as toy furniture, doll carriages and carts, construction sets, mechanical trains, toy guns and air rifles, and other mechanical games and toys; baby carriages and strollers; children's velocipedes and tricycles, coaster wagons, play cars, sleds, and other children's outdoor wheel goods and vehicles, except bicycles (industry 3751). Establishments primarily engaged in manufacturing dolls are classified in industry 3942; and sporting and athletic goods for children and adults in industry 3949.

3949 **Sporting and Athletic Goods, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing sporting and athletic goods, not elsewhere classified, such as fishing tackle; golf and tennis goods; baseball, football, basketball, and boxing equipment; roller skates and ice skates; gymnasium and playground equipment; billiard and pool tables; and bowling alleys and equipment. Establishments primarily engaged in manufacturing athletic apparel are classified in SIC Major Group 23, small arms ammunition in industry 3482, and firearms in industry 3484.

395 PENS, PENCILS, AND OTHER OFFICE AND ARTISTS' MATERIALS

3951 **Pens, Mechanical Pencils, and Parts.**—Establishments primarily engaged in manufacturing pens, pen points, fountain pens, ballpoint pens, refill cartridges, porous-tipped felt tip markers, and parts.

3952 **Lead Pencils, Crayons, and Artists' Materials.**—Establishments primarily engaged in manufacturing lead pencils, pencil leads, and crayons; and materials and equipment for artwork, such as airbrushes, drawing tables and boards, palettes, sketch boxes, pantographs, artists' colors and waxes, pyrography goods, drawing inks, and drafting materials. Establishments primarily engaged in manufacturing mechanical pencils are classified in industry 3951, and drafting instruments in industry 3811.

3953 **Marking Devices.**—Establishments primarily engaged in manufacturing rubber and metal hand stamps, dies, and seals; steel letters and figures; and stencils for use in painting or marking. Establishments primarily engaged in manufacturing felt tip markers are classified in industry 3951.

3955 **Carbon Paper and Inked Ribbons.**—Establishments primarily engaged in manufacturing carbon paper for business machines, sales books, etc.; spirit or gelatin process and other stencil paper; and inked or carbon ribbons for business machines.

396 COSTUME JEWELRY, COSTUME NOVELTIES, BUTTONS, AND MISCELLANEOUS NOTIONS, EXCEPT PRECIOUS METAL

3961 **Costume Jewelry and Costume Novelties, Except Precious Metal.**—Establishments primarily engaged in manufacturing costume jewelry, costume novelties, and ornaments made of all materials, except precious metal, precious or semiprecious stones, and rolled gold plate and gold filled materials (industry 3911).

3962 **Feathers, Plumes, and Artificial Trees and Flowers.**—Establishments primarily engaged in manufacturing artificial trees (including Christmas trees), flowers, fruits, and foliage made from all materials except glass; in producing fancy feathers, plumes, and articles made principally of feathers and plumes. Establishments primarily engaged in manufacturing artificial flowers, fruits, and foliage from glass are classified in industry 3231.

3963 **Buttons.**—Establishments primarily engaged in manufacturing buttons, button parts, and button blanks and molds, of all materials except precious metal and precious or semiprecious stones (industry 3911).

3964 **Needles, Pins, Hooks and Eyes, and Similar Notions.**—Establishments primarily engaged in manufacturing notions, such as machine and hand needles, pins, hooks and eyes, eyelets, buckles, and slide and snap fasteners.

399 MISCELLANEOUS MANUFACTURING INDUSTRIES

3991 **Brooms and Brushes.**—Establishments primarily engaged in manufacturing household, industrial, and street sweeping brooms; and brushes, such as paintbrushes, toothbrushes, toilet brushes, and household and industrial brushes.

3993 Signs and Advertising Displays.—Establishments primarily engaged in manufacturing electrical, mechanical, cutout, or plate signs and advertising displays, including neon signs and advertising novelties. Sign painting shops doing business on a custom basis are classified in industry 7399. Establishments primarily engaged in manufacturing electric signal equipment are classified in industry 3662, and commercial lighting fixtures in industry 3646.

3995 Burial Caskets.—Establishments primarily engaged in manufacturing burial caskets and cases including shipping cases of wood or other material except concrete. Establishments primarily engaged in producing other goods for use by morticians are classified on the basis of the product, such as burial garments in SIC Major Group 23.

3996 Linoleum, Asphalted-Felt-Base, and Other Hard-Surface Floor Coverings, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing linoleum, asphalted-felt-base, and other hard-surface floor coverings not elsewhere classified. Establishments primarily engaged in manufacturing rubber floor coverings are classified in industry 3069, and cork floor and wall tile in industry 2499.

3999 Manufacturing Industries, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing miscellaneous fabricated products, including beauty shop and barbershop equipment; hairwork; tobacco pipes and cigarette holders; coin-operated amusement machines; matches; candles; lampshades; dressed and dyed furs; umbrellas; parasols and canes; and other articles not elsewhere classified.

APPENDIX D. Reporting Forms

This appendix contains reproductions of a representative selection of reporting forms used in the 1977 economic censuses, with emphasis on the census of manufactures.

These forms are described in section 7 of the Introduction.

DUE DATE: February 15, 1978

Form Approved: O.M.B. No. 41-R2751

FORM NC-X1 (Items 1–4)
(4-27-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES

REPORT OF ORGANIZATION

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code)**. By the same law, your report to the Census Bureau is **confidential**. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

Refer to this **CENSUS FILE NUMBER** in any correspondence pertaining to this report

CENSUS USE ONLY	Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

(Please correct any errors in name and address including ZIP code)

ACT	CCS	DOC

Important - Please read

Please complete this report by February 15, 1978 and

RETURN YELLOW COPY TO – –

BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, Indiana 47132

***NOTE** – Shaded boxes are for Bureau of the Census use only*

Item 1 – COMPANY OWNERSHIP OR CONTROL (DOMESTIC)

Does another U.S. (domestic) company own more than 50 percent of the voting stock of your company OR have the power to control the management and policies of your company?

1 ☐ YES – *Enter the following information on the owning or controlling company and go to item 2.*

2 ☐ NO – *Go to item 2*

Name of owning or controlling company	Home office address *(Number and street, city, State, and ZIP code)*	Employer Identification Number of owning or controlling company
		–

Percent of voting stock owned – *Mark (X) one* → 1 ☐ **Less than 50%** 2 ☐ **50%** 3 ☐ **More than 50%**

Item 2 – COMPANY OWNERSHIP OR CONTROL (FOREIGN)

Does a foreign entity (company, individual, government, etc.) own 10 percent or more of the voting stock or other equity rights of your company?

1 ☐ YES – *Enter the following information on the owning entity and go to item 3.*

2 ☐ NO – *Go to item 3*

Name of owning entity	Home office address *(City, country)*

Percent of ownership – *Mark (X) one* → 1 ☐ **Less than 10%** 2 ☐ **10–24%** 3 ☐ **25–49%** 4 ☐ **50%** 5 ☐ **51–99%** 6 ☐ **100%**

Item 3 – FOREIGN AFFILIATES

Does this enterprise alone, or with its domestic affiliates, own 10 percent or more of the voting stock of an incorporated foreign business enterprise, or an equivalent interest in an unincorporated foreign business enterprise, including ownership of real estate?

1 ☐ YES – *Go to item 4*

2 ☐ NO – *Go to item 4*

Item 4 – CERTIFICATION

Name of person to contact regarding this report	Address (if different from above address)	Telephone: Area code	Telephone: Number	Telephone: Extension

This report is substantially accurate

Signature of authorized person	Title	Date

FORM NC-X1 (Item 5A) (4-27-77)

U S DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES
REPORT OF ORGANIZATION

Refer to this CENSUS FILE NUMBER in any correspondence pertaining to this report

Item 5A – ESTABLISHMENTS OF YOUR COMPANY AND ITS SUBSIDIARIES

This item should include an up-to-date list of all establishments of your company and its subsidiaries, for which separate establishment reports are not required, for the 1977 Economic Censuses. Please correct any errors or omissions in the prelisted information in column (a) and complete columns (b) and (c) as indicated. Estimates are acceptable if book figures are not readily available. Please read the definitions and instructions on the reverse side before completing this item.

Line No.	(a) Employer Identification (EI) Number, establishment name, address of **physical** location (including ZIP code), and major activity. *Add store or plant number, if any, and correct any errors or omissions*	(b) 1977 Establishment data. *Report the number of employees and payroll for each establishment (including part year operations)*	(c) Status of establishment at end of 1977. *Mark (X) one box and complete as indicated*
	EMPLOYER IDENTIFICATION NO. / Census use only: GEO, SC, TE	Employees (during pay period including March 12, 1977) (Number)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR
	NAME / STORE OR PLANT NO.	Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.)	NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY STATE ZIP CODE
	NUMBER AND STREET OF PHYSICAL LOCATION	Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
	CITY / STATE / ZIP		
	MAJOR ACTIVITY		
Census use only	CENSUS FILE NO. / TO / IND / TAB / WT	CCS / NID	
	EMPLOYER IDENTIFICATION NO. / Census use only: GEO, SC, TE	Employees (during pay period including March 12, 1977) (Number)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR
	NAME / STORE OR PLANT NO.	Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.)	NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY STATE ZIP CODE
	NUMBER AND STREET OF PHYSICAL LOCATION	Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
	CITY / STATE / ZIP		
	MAJOR ACTIVITY		
Census use only	CENSUS FILE NO. / TO / IND / TAB / WT	CCS / NID	
	EMPLOYER IDENTIFICATION NO. / Census use only: GEO, SC, TE	Employees (during pay period including March 12, 1977) (Number)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR
	NAME / STORE OR PLANT NO.	Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.)	NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY STATE ZIP CODE
	NUMBER AND STREET OF PHYSICAL LOCATION	Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
	CITY / STATE / ZIP		
	MAJOR ACTIVITY		
Census use only	CENSUS FILE NO. / TO / IND / TAB / WT	CCS / NID	
	EMPLOYER IDENTIFICATION NO. / Census use only: GEO, SC, TE	Employees (during pay period including March 12, 1977) (Number)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR
	NAME / STORE OR PLANT NO.	Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.)	NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY STATE ZIP CODE
	NUMBER AND STREET OF PHYSICAL LOCATION	Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
	CITY / STATE / ZIP		
	MAJOR ACTIVITY		
Census use only	CENSUS FILE NO. / TO / IND / TAB / WT	CCS / NID	
	EMPLOYER IDENTIFICATION NO. / Census use only: GEO, SC, TE	Employees (during pay period including March 12, 1977) (Number)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR
	NAME / STORE OR PLANT NO.	Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.)	NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY STATE ZIP CODE
	NUMBER AND STREET OF PHYSICAL LOCATION	Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
	CITY / STATE / ZIP		
	MAJOR ACTIVITY		
Census use only	CENSUS FILE NO. / TO / IND / TAB / WT	CCS / NID	

Page _____ of _____ pages

FORM NC-X1 (Item 5B) (4-27-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES
REPORT OF ORGANIZATION

Item 5B – YOUR LISTING OF ADDITIONAL ESTABLISHMENTS AND SUBSIDIARIES

PLEASE ENTER YOUR CENSUS FILE NUMBER (See front page)

_____

- **Column (a)** – List separately any establishments of your company and its subsidiaries located in the U.S. or any of its territories which are not accounted for on other report forms in this mailing package.
- **Instructions for questions (e) and (f)** – Answer question (e) for acquired establishments. Complete question (f) entering the date the establishment opened. If not yet in operation, enter the expected opening date and the expected employment.
- **Column (b)** – Complete this column for each listed establishment.
- **Column (c)** – Mark (X) the box which best describes the activity of each establishment. *See box codes*
- **Column (d)** – Describe major activity or list principal products or services.
- **NOTE:** Additional copies of **Item 5B** are available upon request to Bureau of the Census, 1201 East Tenth Street, Jeffersonville, Indiana 47132. If you prefer, you may use your own paper to list additional establishments; in such instances, however, please **follow the same format** as shown on the report form. Be sure to **enter** the item number, your company's name and address, and the Census File Number in the upper right-hand corner of each additional sheet.

DESCRIPTION AND CODES FOR COLUMN (c)

1 – Agricultural production
2 – Agricultural services
3 – Mining
4 – Construction
5 – Merchant wholesalers
6 – Commission agent/broker
7 – Communications
8 – Manufacturers' sales branches, manufacturers' sales offices
9 – Manufacturing
10 – Retail
11 – Retail concessions/departments in retail stores
12 – Transportation and public utilities
13 – Finance, insurance, or real estate
14 – Services
15 – Medical, legal, or educational
16 – Auxiliary establishments primarily providing service to your own or affiliated company rather than customers or clients such as storage warehouses and research laboratories
17 – Central Administrative Office: accounting, purchasing, legal activities for your own company
18 – Other – *Specify major activity in column (d) below*

Line No.	Employer Identification (EI) Number, establishment name, your store or plant number, if any, and address of physical location (including ZIP code) (a)	1977 establishment data *Report number of employees and payroll for each establishment (including part-year operations)* (b)	Kind of business activity in 1977: Major activity *Mark (X) one box from the above descriptions* (c)	Description of major activity or principal products or services (d)
	EMPLOYER IDENTIFICATION NUMBER ___ – _____ NAME / STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY / STATE / ZIP CODE (e) Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED MONTH DAY YEAR NAME AND ADDRESS OF FORMER OWNER OR OPERATOR (f) Date establishment opened or is expected to open and expected employment. MONTH DAY YEAR EXPECTED EMPLOYMENT	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions Mil. Thou. Dol. Total annual payroll for 1977 before deductions Census use only: CENSUS FILE NO. SC TO IND FORM; TAB WT CCS OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	
	EMPLOYER IDENTIFICATION NUMBER ___ – _____ NAME / STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY / STATE / ZIP CODE (e) Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED MONTH DAY YEAR NAME AND ADDRESS OF FORMER OWNER OR OPERATOR (f) Date establishment opened or is expected to open and expected employment. MONTH DAY YEAR EXPECTED EMPLOYMENT	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions Mil. Thou. Dol. Total annual payroll for 1977 before deductions Census use only: CENSUS FILE NO. SC TO IND FORM; TAB WT CCS OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	
	EMPLOYER IDENTIFICATION NUMBER ___ – _____ NAME / STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY / STATE / ZIP CODE (e) Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED MONTH DAY YEAR NAME AND ADDRESS OF FORMER OWNER OR OPERATOR (f) Date establishment opened or is expected to open and expected employment. MONTH DAY YEAR EXPECTED EMPLOYMENT	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions Mil. Thou. Dol. Total annual payroll for 1977 before deductions Census use only: CENSUS FILE NO. SC TO IND FORM; TAB WT CCS OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	
	EMPLOYER IDENTIFICATION NUMBER ___ – _____ NAME / STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY / STATE / ZIP CODE (e) Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED MONTH DAY YEAR NAME AND ADDRESS OF FORMER OWNER OR OPERATOR (f) Date establishment opened or is expected to open and expected employment. MONTH DAY YEAR EXPECTED EMPLOYMENT	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions Mil. Thou. Dol. Total annual payroll for 1977 before deductions Census use only: CENSUS FILE NO. SC TO IND FORM; TAB WT CCS OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	

DUE DATE: 7 Days after Receipt

Form Approved: O.M.B. No. 41-S77010

FORM NC-X2 U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES

LISTING OF ADDITIONAL ESTABLISHMENTS

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

In correspondence pertaining to this report, please refer to this Census File Number

Employer Identification Number

Please complete this form and RETURN TO

BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, Indiana 47132

NOTE – Additional copies of this form are available upon request. If you prefer, list additional establishments on your own paper. BE SURE TO ENTER THE CENSUS FILE NUMBER in the upper right-hand corner of each additional sheet.

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Census use only	Unit No.	Item code	Unit No.	Item code	Unit No.	Item code	ACT	CCS	DOC

Item 1 – Does your organization or any of its subsidiaries have any establishments located in the United States or any of its territories which are not accounted for on other report forms in this mailing package?

☐ YES – *Go to Item 2*
☐ NO – *Complete CERTIFICATION on reverse side and return report*

Item 2 – LISTING OF ADDITIONAL ESTABLISHMENTS

INSTRUCTIONS

Column (a) – Complete this column for each establishment that you list.

Column (b) – Mark (X) the box which best describes the principal activity of each establishment using the following code box descriptions:

1 – Agricultural production
2 – Agricultural services
3 – Mining
4 – Construction
5 – Merchant wholesaler
6 – Commission agent/broker
7 – Communications
8 – Manufacturers' sales branch/office
9 – Manufacturing
10 – Retail
11 – Retail concessions/departments in retail stores
12 – Transportation and public utilities
13 – Finance, insurance, or real estate
14 – Services
15 – Medical, legal, or educational
16 – Auxiliary establishments such as storage warehouses and research laboratories primarily providing service to your own or affiliated company rather than customers or clients
17 – Central administrative office, accounting, purchasing, legal activities for your own company
18 – Other – *Specify in column (c) below*

Column (c) – List in order of importance the principal products mined or made; kinds of wholesale or retail business; types of services provided; kinds of construction work done; or the types of crops grown or animals raised, etc.

Column (d) – Complete as indicated.

NOTE – Please return this report form whether or not you report additional establishments.

Employer Identification (EI) Number, establishment name, your store or plant number, if any, and address of **physical** location (including ZIP code) (a)	Principal activity *Mark (X) one box from the above descriptions* (b)	Description of products, business, services, etc. *List in order of importance* (c)	Operating status (d)
EMPLOYER IDENTIFICATION NUMBER – ; NAME; STORE OR PLANT NO.; NUMBER AND STREET OF PHYSICAL LOCATION; CITY; STATE; ZIP CODE; Census use only: CENSUS FILE NO.; SC; TO; IND; FORM; TAB; WT; CCS; OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	GEO	Date establishment opened or is expected to open: MONTH; DAY; YEAR; APPROXIMATE EMPLOYMENT. Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED: MONTH; DAY; YEAR. NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
EMPLOYER IDENTIFICATION NUMBER – ; NAME; STORE OR PLANT NO.; NUMBER AND STREET OF PHYSICAL LOCATION; CITY; STATE; ZIP CODE; Census use only: CENSUS FILE NO.; SC; TO; IND; FORM; TAB; WT; CCS; OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	GEO	Date establishment opened or is expected to open: MONTH; DAY; YEAR; APPROXIMATE EMPLOYMENT. Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED: MONTH; DAY; YEAR. NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
EMPLOYER IDENTIFICATION NUMBER – ; NAME; STORE OR PLANT NO.; NUMBER AND STREET OF PHYSICAL LOCATION; CITY; STATE; ZIP CODE; Census use only: CENSUS FILE NO.; SC; TO; IND; FORM; TAB; WT; CCS; OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	GEO	Date establishment opened or is expected to open: MONTH; DAY; YEAR; APPROXIMATE EMPLOYMENT. Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED: MONTH; DAY; YEAR. NAME AND ADDRESS OF FORMER OWNER OR OPERATOR

Continued on reverse side

Item 2 – LISTING OF ADDITIONAL ESTABLISHMENTS – Continued

Employer Identification (EI) Number, establishment name, your store or plant number, if any, and address of **physical** location (including ZIP code) (a)	Principal activity *Mark (X) one box from the above descriptions* (b)	Description of products business, services, etc. *List in order of importance* (c)	Operating status (d)
EMPLOYER IDENTIFICATION NUMBER –	1 ☐ 10 ☐		Date establishment opened or is expected to open
NAME / STORE OR PLANT NO.	2 ☐ 11 ☐		MONTH / DAY / YEAR / APPROXIMATE EMPLOYMENT
NUMBER AND STREET OF PHYSICAL LOCATION	3 ☐ 12 ☐		Was this establishment acquired from another company?
CITY / STATE / ZIP CODE	4 ☐ 13 ☐		☐ YES ☐ NO → DATE ACQUIRED: MONTH / DAY / YEAR
Census use only	5 ☐ 14 ☐		NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
CENSUS FILE NO. / SC / TO / IND / FORM	6 ☐ 15 ☐		
TAB / WT / CCS / OID	7 ☐ 16 ☐		
	8 ☐ 17 ☐		
	9 ☐ 18 ☐	GEO	
EMPLOYER IDENTIFICATION NUMBER –	1 ☐ 10 ☐		Date establishment opened or is expected to open
NAME / STORE OR PLANT NO.	2 ☐ 11 ☐		MONTH / DAY / YEAR / APPROXIMATE EMPLOYMENT
NUMBER AND STREET OF PHYSICAL LOCATION	3 ☐ 12 ☐		Was this establishment acquired from another company?
CITY / STATE / ZIP CODE	4 ☐ 13 ☐		☐ YES ☐ NO → DATE ACQUIRED: MONTH / DAY / YEAR
Census use only	5 ☐ 14 ☐		NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
CENSUS FILE NO. / SC / TO / IND / FORM	6 ☐ 15 ☐		
TAB / WT / CCS / OID	7 ☐ 16 ☐		
	8 ☐ 17 ☐		
	9 ☐ 18 ☐	GEO	
EMPLOYER IDENTIFICATION NUMBER –	1 ☐ 10 ☐		Date establishment opened or is expected to open
NAME / STORE OR PLANT NO.	2 ☐ 11 ☐		MONTH / DAY / YEAR / APPROXIMATE EMPLOYMENT
NUMBER AND STREET OF PHYSICAL LOCATION	3 ☐ 12 ☐		Was this establishment acquired from another company?
CITY / STATE / ZIP CODE	4 ☐ 13 ☐		☐ YES ☐ NO → DATE ACQUIRED: MONTH / DAY / YEAR
Census use only	5 ☐ 14 ☐		NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
CENSUS FILE NO. / SC / TO / IND / FORM	6 ☐ 15 ☐		
TAB / WT / CCS / OID	7 ☐ 16 ☐		
	8 ☐ 17 ☐		
	9 ☐ 18 ☐	GEO	
EMPLOYER IDENTIFICATION NUMBER –	1 ☐ 10 ☐		Date establishment opened or is expected to open
NAME / STORE OR PLANT NO.	2 ☐ 11 ☐		MONTH / DAY / YEAR / APPROXIMATE EMPLOYMENT
NUMBER AND STREET OF PHYSICAL LOCATION	3 ☐ 12 ☐		Was this establishment acquired from another company?
CITY / STATE / ZIP CODE	4 ☐ 13 ☐		☐ YES ☐ NO → DATE ACQUIRED: MONTH / DAY / YEAR
Census use only	5 ☐ 14 ☐		NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
CENSUS FILE NO. / SC / TO / IND / FORM	6 ☐ 15 ☐		
TAB / WT / CCS / OID	7 ☐ 16 ☐		
	8 ☐ 17 ☐		
	9 ☐ 18 ☐	GEO	
EMPLOYER IDENTIFICATION NUMBER –	1 ☐ 10 ☐		Date establishment opened or is expected to open
NAME / STORE OR PLANT NO.	2 ☐ 11 ☐		MONTH / DAY / YEAR / APPROXIMATE EMPLOYMENT
NUMBER AND STREET OF PHYSICAL LOCATION	3 ☐ 12 ☐		Was this establishment acquired from another company?
CITY / STATE / ZIP CODE	4 ☐ 13 ☐		☐ YES ☐ NO → DATE ACQUIRED: MONTH / DAY / YEAR
Census use only	5 ☐ 14 ☐		NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
CENSUS FILE NO. / SC / TO / IND / FORM	6 ☐ 15 ☐		
TAB / WT / CCS / OID	7 ☐ 16 ☐		
	8 ☐ 17 ☐		
	9 ☐ 18 ☐	GEO	
EMPLOYER IDENTIFICATION NUMBER –	1 ☐ 10 ☐		Date establishment opened or is expected to open
NAME / STORE OR PLANT NO.	2 ☐ 11 ☐		MONTH / DAY / YEAR / APPROXIMATE EMPLOYMENT
NUMBER AND STREET OF PHYSICAL LOCATION	3 ☐ 12 ☐		Was this establishment acquired from another company?
CITY / STATE / ZIP CODE	4 ☐ 13 ☐		☐ YES ☐ NO → DATE ACQUIRED: MONTH / DAY / YEAR
Census use only	5 ☐ 14 ☐		NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
CENSUS FILE NO. / SC / TO / IND / FORM	6 ☐ 15 ☐		
TAB / WT / CCS / OID	7 ☐ 16 ☐		
	8 ☐ 17 ☐		
	9 ☐ 18 ☐	GEO	

Item 3 CERTIFICATION

Name of person to contact regarding this report	Address (if different from label address)	Telephone: Area code / Number / Extension

This report *(including attached continuation pages)* is substantially accurate and has been prepared in accordance with instructions.

Signature of authorized person	Title	Date

FORM NC-X2

PENALTY FOR FAILURE TO REPORT
DUE DATE: FEBRUARY 15, 1978

O.M.B. No. 41-S77014; Approval Expires December 31, 1978

FORM NC-X3 (4-4-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES

GENERAL SCHEDULE

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

In correspondence pertaining to this report, please refer to this Census File Number: NC-X3

Employer Identification Number

Please complete this form and RETURN TO: BUREAU OF THE CENSUS, 1201 East Tenth Street, Jeffersonville, Indiana 47132

Census use only	Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

KEEP THIS COPY FOR YOUR FILES

PLEASE COMPLETE AND RETURN THE FORM WHICH SHOWS YOUR NAME AND ADDRESS

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Important–Please read

The data reported on this form should cover only the establishment shown on the address label. However, if more than one establishment (location) was operated under the same Employer Identification Number in 1977, consolidate data for all such locations in items 5 and 6. In item 1 enter the location of the MAIN establishment. In item 12c provide information separately for each location, INCLUDING the main establishment.

Item 1 – PHYSICAL LOCATION OF ESTABLISHMENT – In order to assign this establishment to the correct geographic area, the Bureau of the Census must know the actual location **which may differ from the mailing address.** *Complete items a through g.*

a. Address number and street name of physical location – *If not known, enter building name, shopping center name, or other physical location description. Do not enter P.O. box or rural route.*
Mark (X) for a, b, c, and d if same as mailing label; if different show corrections.
Same as mailing label ☐ OR ▶

b. Name of city, town, village, borough, etc. of physical location
Same as mailing label ☐ OR ▶

c. State
Same as mailing label ☐ OR ▶

d. ZIP code
Same as mailing label ☐ OR ▶

e. Type of municipality indicated in 1b – *Mark (X) one*
1 ☐ City 2 ☐ Town 3 ☐ Village 4 ☐ Borough 5 ☐ Township 6 ☐ Unincorporated 7 ☐ Other – *Specify* _____ 8 ☐ Don't know

f. **Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1b?**
1 ☐ Yes 2 ☐ No 3 ☐ No legal boundaries 4 ☐ Don't know
NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which the post office takes its name.

g. Name of county (Louisiana parish) of physical location

Item 2 – EMPLOYER IDENTIFICATION NUMBER
Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941?
☐ YES
☐ NO – *Enter current EI number* ▶ _____ *(9 digits)*

Item 3 – OPERATIONAL STATUS
a. Mark (X) the **ONE** box which best describes this establishment at the end of 1977.
001
1 ☐ In operation
2 ☐ Temporarily or seasonally inactive
3 ☐ Ceased operation – *Give date* ▶
4 ☐ Sold or leased to another operator – *Give date AND name, etc.* ▶

Figures only

Month	Day	Year

Name of new owner or operator
Number and street
City | State | ZIP code

b. **How many months during 1977 did your firm or organization actively operate this establishment?**
Number of months: 002

Item 4 – ORGANIZATIONAL STATUS
a. Mark (X) the **ONE** box which best describes this establishment during 1977.
003
1 ☐ Individual proprietorship
2 ☐ Partnership
8 ☐ Cooperative association
5 ☐ Governmental – *Specify* _____
0 ☐ Corporation (other than specified above)
9 ☐ Other – *Specify* _____

b. **Was all or part of the income of this establishment or organization exempt from Federal income taxes under Section 501 or 521 of the Internal Revenue Code?**
004
1 ☐ YES
2 ☐ NO

Important–Please read

Dollar figures should be reported as illustrated. Please be careful to enter the figures in the **correct columns.** See example below:

EXAMPLE: If figure is **$1,125,628.28** ▶

	Millions (000)	Thousands (000)	Dollars (000)
• **PREFERRED method**	1	125	
Acceptable method	1	125	628

Item 5 – DOLLAR VOLUME

	Mil.	Thou.	Dol.
a. Sales of merchandise and other operating receipts or total revenue in 1977 **EXCLUDING** sales (or other) taxes collected – 010			
b. Were sales (or other) taxes collected from customers and forwarded to taxing authorities? – 011 1 ☐ YES 2 ☐ NO			
If "YES," report the amount of such taxes (***DO NOT*** *include taxes in 5a above*) – 012			
c. **TOTAL DOLLAR VOLUME** including sales (or other) taxes (Sum of 5a and 5b above) ▶ – 013			
d. Expenses in 1977 – 040			

Item 6 – PAYROLL AND EMPLOYMENT

	Mil.	Thou.	Dol.
a. Payroll			
(1) Total **ANNUAL** payroll in 1977 before deductions – 030			
(2) Payroll for the **FIRST QUARTER** of 1977 – 031			

b. **Employment** – Number of paid employees for the pay period including the 12th of the month (include both full- and part-time employees)

032 MAR	033 MAY	034 AUG	035 NOV

Item 7 – SOURCE OF SALES, RECEIPTS, OR REVENUE – List below the principal lines of merchandise sold, kinds of construction work done, products produced, or services provided and indicate the approximate percentage each was of the total receipts or revenue in 1977.

Source	Percentage of receipts or revenue	Source	Percentage of receipts or revenue
	%		%
	%		%
	%		%
	%		%

Make sure all items on this page have been completed and continue to NEXT PAGE

Item 8 – BUSINESS OR ACTIVITY – Mark (X) the **ONE** box which best describes the **principal** activity during the past year. 070

Census use only

- ☐ **AGRICULTURAL PRODUCTION**
- ☐ **MINERALS EXTRACTION OR ORE PROCESSING**
- ☐ **MANUFACTURING**
- ☐ **MOTOR CARRIER (ICC REGULATED)**
- ☐ **MOTOR CARRIER (EXCEPT ICC REGULATED)**
- **CONSTRUCTION**
  - ☐ Building construction – General contractor
  - ☐ Other construction – General contractor
  - ☐ Special trade contractor (electricians, carpenters, painters, etc.)
  - ☐ Land developer and subdivider
  - ☐ Real estate – *Specify activity* _____
- **WHOLESALE TRADE**
  - ☐ Merchant wholesaler
  - ☐ Agent or broker
  - ☐ Other type of wholesaler – *Specify* _____
- **RETAIL TRADE**
  - ☐ Selling at this establishment
  - ☐ Mail order (catalog selling)
  - ☐ House-to-house (direct selling)
  - ☐ Operating merchandise vending machines
  - ☐ Other type of retailer – *Specify* _____
- ☐ **Other – *Specify activity*** _____

Item 9 – If "Manufacturing" is marked in item 8, list the primary materials consumed in producing the manufactured products.

Item 10 – CLASS OF CUSTOMER

To whom do you sell most of your products or provide your services?

- ☐ Retail or wholesale establishments
- ☐ Construction contractors
- ☐ General public (household consumers and individuals)
- ☐ Institutional, industrial, commercial, professional, government, and farm users
- ☐ Other – *Specify* _____

Item 11 – OWNERSHIP OR CONTROL

Enter the company name and address (street name and number, city, State, ZIP code) and EI Number. If more space is needed to list companies, attach a separate sheet.

a. Is this company owned or controlled by another company? 1 ☐ YES → 2 ☐ NO

Owning or controlling company

EI No. *(9 digits)* ☐☐–☐☐☐☐☐☐☐

b. Does this company own or control any other company or companies? 1 ☐ YES → 2 ☐ NO

Owned or controlled company

EI No. *(9 digits)* ☐☐–☐☐☐☐☐☐☐

Item 12 – LOCATIONS OF OPERATION

a. Were the operations under the EI Number shown in the mailing label (or as corrected in item 2) conducted at more than one location during 1977? (Including all selling or service locations and any other facilities such as warehouses, administrative offices, etc.)

1 ☐ YES – *Answer (b) and (c)*
2 ☐ NO – *SKIP to item 13*

b. At how many separate locations were these operations conducted during 1977? Number of locations

c. List each location – including main location. If more space is needed, attach a separate sheet providing the same information required below.

Census use only	Physical location of each operation *Name, address and ZIP code* (a)			1977 sales and receipts and annual and 1st quarter payrolls *Totals should equal items 5a and 6a(1) and (2)* (b)	Mil.	Thou.	Dol.	Number of paid employees for the pay period including the 12th of each month *Totals should equal corresponding entries in item 6b* (c)		Primary kind of business or activity of each location *Describe* (d)
080	Name			Sales and receipts	081			084 MAR	085 MAY	
	Number and street of physical location			Total annual payroll	082			086 AUG	087 NOV	
	City	State	ZIP code	1st quarter payroll	083					088 Census use only
080	Name			Sales and receipts	081			084 MAR	085 MAY	
	Number and street of physical location			Total annual payroll	082			086 AUG	087 NOV	
	City	State	ZIP code	1st quarter payroll	083					088 Census use only
080	Name			Sales and receipts	081			084 MAR	085 MAY	
	Number and street of physical location			Total annual payroll	082			086 AUG	087 NOV	
	City	State	ZIP code	1st quarter payroll	083					088 Census use only
080	Name			Sales and receipts	081			084 MAR	085 MAY	
	Number and street of physical location			Total annual payroll	082			086 AUG	087 NOV	
	City	State	ZIP code	1st quarter payroll	083					088 Census use only
080	Name			Sales and receipts	081			084 MAR	085 MAY	
	Number and street of physical location			Total annual payroll	082			086 AUG	087 NOV	
	City	State	ZIP code	1st quarter payroll	083					088 Census use only
	TOTALS (Sum of entries should equal corresponding entries in items 5a and 6 on page 1)			Sales and receipts				MAR	MAY	
				Total annual payroll				AUG	NOV	
				1st quarter payroll						

Item 13 – CERTIFICATION

Name of person to contact regarding this report	Telephone: Area code	Number	Extension

Address – *Number and street*

City	State	ZIP code

This report is substantially accurate and has been prepared in accordance with instructions.

Period covered → From: Mo. Day Year To: Mo. Day Year

Signature of authorized person

Title | Date

FORM NC-X3 (4-4-77)

PENALTY FOR FAILURE TO REPORT
DUE DATE: FEBRUARY 15, 1978

Form Approved: O.M.B. No. 41-S77017

FORM NC-X6 (0600)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES

CENTRAL ADMINISTRATIVE OFFICE OR AUXILIARY ESTABLISHMENT

Important – PLEASE READ ALL ACCOMPANYING INSTRUCTIONS

NOTICE – Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report, please refer to this Census File Number

NC-X6 (0600)

Employer Identification Number

Please complete this form and RETURN TO

BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, Indiana 47132

Census use only

Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Item 1 – PHYSICAL LOCATION OF ESTABLISHMENT – In order to assign this establishment to the correct geographic area, the Bureau of the Census must know the actual location which may differ from the mailing address. *Complete items a through g.*

a. Address number and street name of physical location – *If not known, enter building name, shopping center name, or other physical location description. Do not enter P.O. box or rural route.*
Mark (X) for a, b, c, and d if same as mailing label; if different show corrections.
Same as mailing label [ ] OR ▶

b. Name of city, town, village, borough, etc., of physical location
Same as mailing label [ ] OR ▶

c. State
Same as mailing label [ ] OR ▶

d. ZIP code
Same as mailing label [ ] OR ▶

e. Type of municipality indicated in 1b
Mark (X) one
1 [ ] City
2 [ ] Town
3 [ ] Village
4 [ ] Borough
5 [ ] Township
6 [ ] Unincorporated
7 [ ] Other – *Specify* _____
8 [ ] Don't know

f. Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1b?
1 [ ] Yes
2 [ ] No
3 [ ] No legal boundaries
4 [ ] Don't know

NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which the post office takes its name.

g. Name of county (Louisiana parish) of physical location

Item 2 – EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941?

[ ] YES
[ ] NO – *Enter current EI number* ⟶ [ ][ ][ ]–[ ][ ][ ][ ][ ][ ][ ] *(9 digits)*

Item 3 – OPERATIONAL STATUS

a. Mark (X) the **ONE** box which best describes this establishment at the end of 1977.

001
1 [ ] In operation
2 [ ] Temporarily or seasonally inactive
3 [ ] Ceased operation – *Give date* ⟶
4 [ ] Sold or leased to another operator – *Give date AND name, etc.* ⟶

Figures only

Month	Day	Year

Name of new owner or operator

Number and street

City | State | ZIP code

b. How many months during 1977 did your firm or organization actively operate this establishment?

Number of months: 002

Item 4 – ORGANIZATIONAL STATUS

a. Mark (X) the **ONE** box which best describes this establishment during 1977.

003
1 [ ] Individual proprietorship
2 [ ] Partnership
8 [ ] Cooperative association
5 [ ] Governmental – *Specify* _____
0 [ ] Corporation (other than specified above)
9 [ ] Other – *Specify* _____

b. Was all or part of the income of this establishment or organization exempt from Federal income taxes under Section 501 or 521 of the Internal Revenue Code?

004
1 [ ] YES
2 [ ] NO

Item 5 – PRINCIPAL ACTIVITIES OF YOUR COMPANY SERVICED BY THIS ESTABLISHMENT IN 1977

a. **Does this establishment perform management, general administrative functions, or other supporting services PRIMARILY for establishments of this company (rather than for other business firms or for the general public)?** ("Company" refers to the parent firm and all its subsidiaries under common ownership or control.)

050
1 [ ] YES – *Complete items 5b, c, and d*
2 [ ] NO – *SKIP to item 6*

b. **Does this establishment perform these management administrative functions or services for more than one establishment of this company?**

051
1 [ ] YES
2 [ ] NO

c. Mark (X) the **principal** kind of business or industrial activity of the establishments of this company that are managed or serviced by this central office or auxiliary.

052
1 [ ] Manufacturing
2 [ ] Construction
3 [ ] Mining and mineral industries
4 [ ] Manufacturer sales branches or other wholesale operations
5 [ ] Retail stores
6 [ ] Other – *Describe* _____

d. List in order of importance, the **principal** products made, kinds of retail or wholesale business operated, types of services rendered, or construction activities performed by the establishments that are managed or serviced by this central office or auxiliary.

(1)

(2)

Important – Please read

Dollar figures should be reported as illustrated. Please be careful to enter the figures in the **correct columns**. See example below:

EXAMPLE: If figure is **$1,125,628.28** ⟶

	Millions (000)	Thousands (000)	Dollars (000)
• PREFERRED method	1	125	
Acceptable method	1	125	628

Item 6 – EMPLOYMENT

a. Employment by function for pay period including March 12

	Number
(1) Centralized administration	060
(2) Research, development, and testing	061
(3) Warehousing	062
(4) Electronic data processing	063
(5) Sales to customers directly from this location	064
(6) Trading stamp redemption	065
(7) Other – *Specify*	066
(8) **TOTAL employment (Sum of lines (1) through (7))** ⟶	067

b. Total employment for pay period including the 12th of the following months –

(1) May	068
(2) August	069
(3) November	070

Item 7 – PAYROLL

		Mil.	Thou.	Dol.
a. **TOTAL FIRST QUARTER payroll before deductions** ⟶	071			
b. **TOTAL ANNUAL PAYROLL before deductions** ⟶	072			
c. Of the total annual payroll reported in item 7b above, how much was for delivery personnel (including drivers, driver salesmen, etc.), who are engaged in transporting the merchandise of this company, and who are employed at this establishment? ⟶	073			

Item 8 – EMPLOYER COSTS FOR FRINGE BENEFITS

a. Required by law	080			
b. Other fringe benefits	081			
c. **TOTAL fringe benefits (Sum of lines a and b)** ⟶	082			

Please continue on page 2 ⟶

Item 9 – BILLINGS TO RETAIL STORES OF THIS COMPANY 090

a. **Did this establishment have billings to retail stores of this company during 1977?** 1 YES – *Go to b* 2 NO – *SKIP to item 10*

	Mil.	Thou.	Dol.
b. **Total billings by this establishment in 1977 to retail stores of this company.** → 091			

EXAMPLE FOR REPORTING PERCENTS

If figure is **38.76%** of total sales:

- Report whole percents → 39%
- Not acceptable → 38.76%

Item 10 – SALES TO CUSTOMERS OUTSIDE THIS COMPANY 100

a. **Did this establishment have sales to customers outside this company during 1977?** 1 YES – *Go to b* 2 NO – *SKIP to item 11*

	Mil.	Thou.	Dol.
b. (1) Sales and other operating receipts (exclude sales or other taxes collected) 101			
(2) **Were sales (or other) taxes collected from customers and forwarded to taxing authorities?** 102 1 YES 2 NO			
If "YES," report amount of taxes (*DO NOT include in 10b(1)*) → 103			
(3) **TOTAL sales and other operating receipts (including sales or other taxes collected) (Sum of lines (1) and (2))** → 104			

	Whole percent
c. Of the value of sales and other operating receipts reported in item 10b(1), report the approximate percentage of these receipts to –	
(1) General public (households, consumers and individuals) 105	%
(2) Other, include retailers; wholesalers; institutional, industrial, commercial, professional, and farm users (for use in farm production); and government 106	

d. List the **principal** products sold or services rendered by this establishment to customers outside this company, and their approximate percent of 1977 sales and receipts as reported in item 10b(1) above.

Principal products sold or services rendered	Percent of sales and receipts in 1977
(1)	%
(2)	%

Item 11 – CAPITAL EXPENDITURES (EXCLUDE LAND AND MINERAL RIGHTS) 110

a. **Did this establishment make capital expenditures during 1977?** 1 YES – *Go to b* 2 NO – *SKIP to item 12*

b. Type of capital expenditures	Mil.	Thou.	Dol.
(1) New structures and additions to plant 111			
(2) New automobiles, trucks, trailers, etc., for highway use 112			
(3) New computers and peripheral data processing equipment 113			
(4) All other expenditures for new machinery and equipment 114			
(5) Used plant and used equipment acquired from others 115			
(6) **TOTAL capital expenditures (Sum of lines (1) through (5))** → 116			

Item 12 – GROSS VALUE OF DEPRECIABLE ASSETS (EXCLUDE LAND) 120

a. **Did this establishment maintain depreciable assets during 1977?** 1 YES – *Go to b* 2 NO – *SKIP to item 13*

	Mil.	Thou.	Dol.
b. Gross value of depreciable assets, end of 1976			
(1) Buildings and structures 121			
(2) Machinery and equipment 122			
(3) **TOTAL (Sum of lines (1) and (2))** → 123			
c. Gross value of depreciable assets, end of 1977			
(1) Buildings and structures 124			
(2) Machinery and equipment 125			
(3) **TOTAL (Sum of lines (1) and (2))** → 126			

Item 13 – DEPRECIATION CHARGES 130

a. **Did this establishment maintain depreciation accounts during 1977?** 1 YES – *Go to b* 2 NO – *SKIP to item 14*

	Mil.	Thou.	Dol.
b. **TOTAL depreciation charges against assets during 1977** → 131			

Item 14 – SELECTED OPERATING EXPENSES

	Mil.	Thou.	Dol.
(1) Cost of purchased electricity 140			
(2) Cost of fuels consumed 141			
(3) Cost of purchased communication services 142			
(4) Cost of purchased repair services for buildings and structures 143			
(5) Cost of purchased repair services for machinery and equipment 144			

Item 15 – RENTAL PAYMENTS (EXCLUDE LAND) 150

a. **Did this establishment make rental payments during 1977?** 1 YES – *Go to b* 2 NO – *SKIP to item 16*

b. Rental payments made for this establishment	Mil.	Thou.	Dol.
(1) For use of buildings and structures 151			
(2) For use of machinery and equipment 152			
(3) **TOTAL rental payments (Sum of lines (1) and (2))** → 153			

Item 16 – COST OF RESEARCH AND DEVELOPMENT 160

a. **Did this establishment perform research and development during 1977?** 1 YES – *Go to b* 2 NO – *SKIP to item 17*

b. Type of research and development performed	Mil.	Thou.	Dol.
(1) Federal contracts and subcontracts 161			
(2) With own funds and nonfederal sources 162			
(3) **TOTAL cost of research and development (Sum of lines (1) and (2))** → 163			

Item 17 – INVENTORIES AND METHOD OF VALUATION 170

a. **Did this establishment have inventories during 1977?** 1 YES – *Go to b* 2 NO – *SKIP to item 18*

b. Value of inventories of this establishment	Mil.	Thou.	Dol.
(1) End of 1976 171			
(2) End of 1977 172			

c. If the dollar value of inventories at the end of 1977 exceeds $25(000), report the method of valuation below –	Inventories end of 1977 Whole percent
(1) **Cost**	
(a) First-in, First-out (FIFO) 180	%
(b) Last-in, First-out (LIFO) 181	%
(c) Average cost 182	%
(d) Specific or actual cost 183	%
(e) Standard cost 184	%
(f) Other – *Specify* 185	%
(2) **Market** 186	
(a) Market used because lower than cost	%
(b) Market always used 187	%
(3) **Other** – *Specify* 188	%
(4) **TOTAL (Sum of lines (1) through (3))** →	100%

Item 18 – CONSISTENCY CHECK 190

a. **Were any of the above data (items 6–17) also reported in any other 1977 Census establishment report form of this company, i.e., in the Census Forms MA-, MC-, CB-, or CC- series?** 1 YES – *Go to b* 2 NO – *SKIP to item 19*

b. Please give the 10-digit CENSUS FILE NUMBER of that report 191 CFN

Remarks *This space may be used for any explanation that may be essential in understanding your reported data.*

Item 19 – CERTIFICATION

Name of person to contact regarding this report	Telephone: Area code	Number	Extension

Address – *Number and street*

City	State	ZIP code

This report is substantially accurate and has been prepared in accordance with instructions.

Period covered → From: Mo. Day Year To: Mo. Day Year

Signature of authorized person

Title | Date

PENALTY FOR FAILURE TO REPORT — DUE DATE: FEBRUARY 15, 1978 — Form Approved: O.M.B. No. 41-S77009

FORM NC-K1 (6-28-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES

ENTERPRISE REPORT

NOTICE – Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report please refer to this Census File Number:

NC-K1 (9991)

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Please complete this form and RETURN TO: BUREAU OF THE CENSUS, 1201 East Tenth Street, Jeffersonville, Indiana 47132

If filing by due date causes a burden, a request for an extention of time should be sent to the above address.

CENSUS USE ONLY

Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

Important *– Please read instructions before completing report*

Report the following items on a consolidated basis for the domestic activities of your enterprise. An enterprise is a business organization (i.e., company, service organization, membership organization, association, etc.) consisting of one or more establishments under common ownership or control. Furthermore, if an enterprise owns or controls other entities, all establishments of its subsidiaries are to be included as part of the owning or controlling enterprise. For purposes of this report, "domestic" activities include all 50 States and the District of Columbia. Do not include foreign activities, if any, except for reporting foreign assets in item 9. Consolidate all domestic activities, whether or not covered in the 1977 Economic Censuses by individual report forms.

If book records are not available, enter your best estimate. **Before completing these items, please read the detailed instructions.**

Item 1 – CERTIFICATION

Name of person to contact regarding this report

Telephone: Area code | Number | Extension

Address – *Number and street*

City | State | ZIP code

This report is substantially accurate and has been prepared in accordance with instructions.

Period covered → From: Mo. (010) Day (011) Year (012) To: Mo. (013) Day (014) Year (015)

Signature of authorized person

Title | Date

Important - Please read

Dollar figures should be reported as illustrated. Please be careful to enter your figures in the correct columns. See example below:

EXAMPLE: If figure is $1,125,628.28

	Mil.	Thou.	Dol.
	000	000	000
• PREFERRED method	1	126	
Acceptable method	1	125	628

Item 2 – TOTAL EMPLOYMENT

Number of paid employees for the pay period including March 12, 1977 — Number of employees (020)

Item 3 – TOTAL PAYROLL

		Mil.	Thou.	Dol.
		000	000	000
a. Payroll for the **FIRST QUARTER** of 1977, before deductions	030			
b. **TOTAL ANNUAL** payroll in 1977, before deductions	031			

Item 4 – EMPLOYER COSTS FOR FRINGE BENEFITS

a. Required by law	040			
b. Other fringe benefits	041			
c. Total fringe benefits ***(Sum of lines a and b)***	042			

Item 5 – SALES AND RECEIPTS

a. Sales and other operating receipts (exclude sales or other taxes collected)	050			
b. Were sales (or other) taxes collected from customers and forwarded to taxing authorities?	051	1 ☐ YES 2 ☐ NO		
		Mil.	Thou.	Dol.
If "Yes," report amount of taxes. ***Do not include in 5a.***	052			
c. **TOTAL sales and other operating receipts (including sales or other taxes collected)** ***(Sum of lines a and b)***	053			

PLEASE CONTINUE ON REVERSE SIDE

Item 6 – CAPITAL EXPENDITURES (Exclude land and mineral rights)		Millions	Thousands	Dollars
		000	000	000
a. New structures and additions to plant	060			
b. New automobiles, trucks, trailers, etc., for highway use	061			
c. New computers and peripheral data processing equipment	062			
d. All other expenditures for new machinery and equipment	063			
e. Used plant and used equipment acquired from others	064			
f. Capitalized development and exploration of mineral properties	065			
g. **Total capital expenditures** *(Sum of lines a through f)*	066			
Item 7 – GROSS VALUE OF DEPRECIABLE ASSETS				
a. Gross depreciable assets, end of **1976**	070			
(1) For machinery and equipment	071			
(2) For buildings and structures	072			
(3) **Total** *(Sum of lines (1) and (2))*	073			
b. Total capital expenditures during 1977 (should equal line 6g)	074			
c. Other acquisitions by your company during 1977	075			
d. Deductions from depreciable assets during 1977	076			
e. Gross depreciable assets, end of **1977**	077			
(1) For machinery and equipment	078			
(2) For buildings and structures				
(3) **Total** *(Sum of lines (1) and (2))*				
Item 8 – CHANGES IN DEPRECIATION RESERVES				
a. Accumulated depreciation as of end of **1976**	080			
b. Depreciation charged against assets during 1977	081			
c. Additions charged to other accounts during 1977	082			
d. Deductions from reserves for retirements, renewals, and replacements during 1977	083			
e. Accumulated depreciation as of end of **1977** *(Sum of lines a through c minus line d)*	084			
Item 9 – TOTAL ASSETS, AS OF END OF 1977				
a. Net value of depreciable assets (should equal line 7c(3) minus line 8e)	090			
b. All other domestic assets, including inventories	091			
c. Net foreign assets	092			
d. **Total assets, as of end of 1977** *(Sum of lines a through c)*	093			

Item 10 – INVENTORIES AND METHOD OF VALUATION		Millions	Thousands	Dollars
		000	000	000
a. All inventories, as of end of **1976**	100			
b. All inventories, as of end of **1977**	101			

c. **METHOD OF INVENTORY VALUATION**

EXAMPLE FOR REPORTING PERCENTS	If figure is **38.76%** of total receipts:	Percent
	Report whole percents →	39%
	Not acceptable →	38.76%

Method of inventory			Whole percents: End of 1977	Whole percents: End of 1976
(1) **Cost**	(a) First-in, First-out (FIFO)	102	114	
	(b) Last-in, First-out (LIFO)	103	115	
	(c) Average cost	104	116	
	(d) Specific or actual cost	105	117	
	(e) Standard cost	106	118	
	(f) Other – *Specify*	107	119	
(2) **Market**	(a) Market used because lower than cost	108	120	
	(b) Market always used	109	121	
(3) **Retail method**	(a) Approximating lower of cost or market	110	122	
	(b) Approximating cost	111	123	
	(c) LIFO retail	112	124	
(4) Other – *Specify*		113	125	
(5) **TOTAL**		100%	100%	

Item 11 – SELECTED OPERATING EXPENSES		Millions	Thousands	Dollars
		000	000	000
a. Did this enterprise make royalty payments for the use of intangible property rights during 1977?	126 1 ☐ YES – *Report value of payments* → 2 ☐ NO – *GO to b*	127		
b. Did this enterprise purchase advertising services during 1977?	128 1 ☐ YES – *Report cost of purchased services* → 2 ☐ NO – *GO to c*	129		
c. Did this enterprise make rental payments during during 1977?	130 1 ☐ YES – *GO to d* 2 ☐ NO – *SKIP to Item 12*			
d. Rental payments, excluding land		131		
(1) For use of buildings and structures		132		
(2) For machinery and equipment		133		
(3) Total rental payments *(Sum of lines (1) and (2))*				

Item 12 – CONSISTENCY CHECK

Is the gross value of depreciable assets at the end of the year minus total capital expenditures during the year within 5% of the gross value of depreciable assets at the beginning of the year? 140 1 ☐ YES 2 ☐ NO – *Explain in Remarks*

REMARKS – *Please use this space for any explanation that may be essential in understanding your reported data.*

PENALTY FOR FAILURE TO REPORT — DUE DATE: FEBRUARY 15, 1978 — Form Approved: O.M.B. No. 41-S77035

FORM MC-36B (Rev.) — U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

SWITCHGEAR AND SWITCHBOARD APPARATUS AND INDUSTRIAL CONTROLS

Please complete this form and RETURN TO: BUREAU OF THE CENSUS, 1201 East Tenth Street, Jeffersonville, Indiana 47132

NOTICE – Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report, please refer to this Census File Number

Employer Identification Number

Please read ...

A separate census report must be filed for each manufacturing establishment which your company operated in 1977. A manufacturing establishment is defined as a single physical location where products are manufactured, processed, or assembled.

Please read the instructions for each item before completing it. If book figures are not available, carefully prepared estimates are acceptable.

If filing by due date causes an undue burden, a time extension request should be sent to the above address. Please enter your 11-digit Census File Number on each page of this report and on any correspondence with us regarding this report.

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

110 | 111

ITEM 1A — Physical location of establishment

In order to assign this establishment to the correct geographic area, the Bureau of the Census must know the actual location which may differ from the mailing address. *Complete items a through g.*

a. Address number and street name of physical location – *If not known, enter building name, shopping center name, or other physical location description. Do not enter P.O. box or rural route.* ***Mark (X) for a, b, c, and d if same as mailing label; if different enter corrections.*** Same as mailing label ☐ OR ▶

b. Name of city, town, village, borough, etc. of physical location. Same as mailing label ☐ OR ▶

c. State. Same as mailing label ☐ OR ▶

d. ZIP code. Same as mailing label ☐ OR ▶

e. Type of municipality indicated in 1Ab: 1 ☐ City; 2 ☐ Town; 3 ☐ Village; 4 ☐ Borough; 5 ☐ Township; 6 ☐ Unincorporated; 7 ☐ Other – *Specify* _____; 8 ☐ Don't know

f. **Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1Ab?** 1 ☐ Yes; 2 ☐ No; 3 ☐ No legal boundaries; 4 ☐ Don't know

NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which it takes its name.

g. Name of county (Louisiana parish) of physical location

ITEM 1B — Employer identification number(s)

Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941? (9-digits) 108

☐ YES ☐ NO – *Enter current EI number* ▶ ___-_____

ITEM 1C — Organizational status

Mark (X) the **ONE** box which best describes this establishment during 1977 (109)

1 ☐ Individual proprietorship; 2 ☐ Partnership; 0 ☐ Corporation (Do not mark if any form of cooperative association); 8 ☐ Cooperative association, corporate or non-corporate; 9 ☐ Other – *Specify* _____

Important – Please read

Dollars, hours worked, and kilowatt-hour figures should be reported in thousands. If you wish, you may report to the nearest unit. Please be careful to enter your figures in the **correct columns.**

EXAMPLE: If figure is $1,125,628.28

	Millions	Thousands	Dollars
	000	000	000
• PREFERRED method	1	126	
Acceptable method	1	125	628

REFER TO SPECIAL INSTRUCTIONS ON REVERSE SIDE FOR ITEMS 2–8

• *Complete each item and enter "0" when appropriate.*

ITEM 2 — Number of employees

Number of production workers during pay period including the 12th of month	Key	Number
a. March	301	
b. May	302	
c. August	303	
d. November	304	
e. Sum of lines a–d	305	
f. Average number (divide line e by 4, omit fractions)	306	
g. All other employees (pay period including March 12th)	307	
h. TOTAL EMPLOYMENT (Sum of lines f and g, item 2) ▶	308	

ITEM 3A — Annual payrolls

	Key	Mil.	Thou.	Dol.
a. Production workers' wages (for employees reported in item 2f)	309	$		
b. All other salaries and wages (for employees reported in item 2g)	310			
c. TOTAL PAYROLL (item 3A) ▶	311	$		

ITEM 3B – Not applicable to this form

ITEM 3C — First quarter payroll

	Key	Mil.	Thou.	Dol.
TOTAL PAYROLL FOR THE FIRST QUARTER (JANUARY–MARCH) ▶	315	$		

ITEM 4 — Plant hours worked by production workers by quarter

	Key	Mil.	Thou.	Hrs.
a. January through March	316			
b. April through June	317			
c. July through September	318			
d. October through December	319			
e. TOTAL HOURS WORKED (item 4) ▶	320			

ITEM 5 — Cost of materials, resales, fuels, electricity, and contract work

	Key	Mil.	Thou.	Dol.
a. Cost of materials, parts, supplies, containers, etc., which were put into production, used as operating supplies, or used in repair and maintenance	321	$		
b. Cost of products bought and sold without further manufacture or assembly (Resales)	322			
c. Cost of fuels consumed during the year for heat and power	323			
d. Cost of purchased electricity	324			
e. Cost of contract work done for you by others on your materials	325			
f. TOTAL COST (item 5) ▶	326	$		

ITEM 6 – Not applicable to this form

ITEM 7 — Inventories of this establishment

	END OF 1976 Key	Mil.	Thou.	Dol.	END OF 1977 Key	Mil.	Thou.	Dol.
a. Finished products	331	$			335	$		
b. Work-in-process	332				336			
c. Materials, supplies, fuels, etc.	333				337			
d. TOTAL INVENTORIES (item 7) ▶	334	$			338	$		

ITEM 8 — Capital expenditures during year

	Key	Mil.	Thou.	Dol.
a. New structures and new additions to this plant (Exclude land)	342	$		
b. New machinery and equipment including replacements and capitalized repairs	343			
c. Used buildings and equipment	347			
d. TOTAL CAPITAL EXPENDITURES (item 8) ▶	350	$		

ITEMS 9–15 – Not applicable to this form

CENSUS USE

CONTINUE ON PAGE 2 ▶

Form MC-36B (Rev.) Page 2

ITEM 16A — Operational status

a. Mark (X) **ONE** box – *Be sure to indicate the date of any change*

		Enter figures only Mo.	Day	Year
112 1 ☐	No change in operator or operations			
2 ☐	Reorganized – *Complete report for full year and describe type of change in remarks*			
3 ☐	Started new business (newly constructed or completely equipped when started)			
4 ☐	Establishment closed (no new owner or operator), dismantled, abandoned, or destroyed			
5 ☐	Establishment idle or inactive but still owned			
6 ☐	Establishment was acquired or leased from another company			

Mark (X) **ONE** box and give name and address if –

☐ Building only acquired

☐ Complete plant acquired (building, machinery, and equipment)

Name of former operator | Enter current EI number (9 digits)

Number and street, city, State, ZIP code

	Mo.	Day	Year
7 ☐ Establishment was sold or leased to another company			

Mark (X) **ONE** box and give name and address if –

☐ Building only sold

☐ Complete plant sold (building, machinery, and equipment)

Name of new operator | Enter current EI number (9 digits)

Number and street, city, State, ZIP code

b. Is the FIRST DIGIT of your Census File Number (imprinted in the address box) a Zero "0"? ☐ YES – *Complete item 16B, a through d* ☐ NO – *SKIP to item 16C*

ITEM 16B — Ownership and control

113 a. Is this company owned or controlled by another company? 1 ☐ YES → 2 ☐ NO

603 Name and address of owning or controlling company | Enter current EI number (9 digits)

114 b. Does this company own or control any other company or companies? 1 ☐ YES → 2 ☐ NO

604 Name and address of owned or controlled company | Enter current EI number (9 digits)

c. Did this company have any manufacturing plants under construction but not in operation at the end of the year? 1 ☐ YES 2 ☐ NO

d. Did this company operate at more than one location during the survey year? If more space is needed, attach separate sheet. 1 ☐ YES – *List additional locations below* 2 ☐ NO – *SKIP to item 16C*

Physical address of business location *(Number and street, city, State, ZIP code)* (1)	Employer Identification Number (2)	Kind of business at this location (3)	Sales and receipts (4) Mil.	Thou.	Dol.	Annual payroll (5) Mil.	Thou.	Dol.	Number of employees (6)	Are these figures included on the front of this report? (7)
605	606 (9 digits)	607	608			609			610	☐ YES ☐ NO
605	606 (9 digits)	607	608			609			610	☐ YES ☐ NO

ITEM 16C — CHECKS to assure a complete and accurate report

The Bureau of the Census reviews this report for omissions, inconsistencies, and unusual ratios. To save you future correspondence about these problems, please make the following checks before returning this report.

- Review the report carefully to see that no items are omitted for the year being covered.
- Calculate and enter figures for the four "reasonableness" checks below, and review the results.
- Correct your report for any errors you find and explain unusual figures in remarks.

For most manufacturing establishments, the figures computed usually fall within the ranges indicated.

"Reasonableness" checks	Calculation required for each check	Figures for survey year	Usual range
a. Average hourly wages per production worker	Item 3Aa (Production workers' wages) ÷ item 4e (Total hours worked)	$/hr.	$2 – $10
b. Hours worked per year per production worker	Item 4e (Total hours worked) ÷ item 2f (Average number of production workers)	hrs./yr.	1000 – 3000
c. Salaries and wages per dollar of shipments	Item 3Ac (Total payroll) ÷ item 18 (Total value of shipments)	¢	05¢ – 95¢
d. Materials cost per dollar of shipments	Item 5f (Total materials cost) ÷ item 18 (Total value of shipments)	¢	05¢ – 95¢

e. Is the total for Value of Shipments (item 18) greater than the sum for payroll (item 3Ac) plus total Cost of Materials, etc. (item 5f)? ☐ YES ☐ NO – *Explain in remarks*

Remarks – *Please use this space for any explanations that may be essential in understanding your reported data.*

SPECIAL INSTRUCTIONS FOR ITEMS 2–8

▶ **Item 2 – Number of employees** – Report all employees at this establishment who received pay for part of the pay period including the 12th of the specified months. Include officers at this establishment, if a corporation; if an unincorporated concern exclude proprietor or partners.

▶ **Items 2a–2d – Number of production workers** – Report workers (up through the working foreman level) engaged in fabricating, processing, assembling, inspecting, and other manufacturing.

▶ **Item 2g – All other employees** – Report nonproduction personnel, including those engaged in supervision (above the working foreman level), installation and servicing of own product, sales, delivery, professional, technical, administrative, etc.

▶ **Item 3a – Annual payrolls** – Report gross earnings prior to deductions paid in the calendar year to those employees reported in item 2. Include commissions, dismissal pay, bonuses, and vacation pay.

▶ **Item 4 – Plant hours worked by production workers by quarter** – Include all production hours worked, including overtime hours, but excluding paid vacations, etc. These should be reported as actual hours worked, not straight-time equivalent hours.

▶ **Item 5 – Cost of materials, etc.** – Report total delivered cost after discounts and including freight of the materials actually consumed or put in production during the year. Include purchases, interplant transfers, and withdrawal from inventories.

If there are no records of consumption, purchases may be reported instead for minor items. This can also be done for major items if purchases do not differ significantly from the amounts actually used. Where consumption of major items differs significantly from purchases, consumption may be estimated by adding beginning inventories to the amount purchased and subtracting ending inventories.

▶ **Item 5a – Cost of materials, parts, supplies, containers, etc., consumed** – The delivered cost figures should cover all raw materials, containers, scrap, supplies, etc., which were: (1) put into production, (2) used as operating supplies, (3) used in repair and maintenance. Item 5a should be consistent with the data in item 17B.

▶ **Item 5b – Cost of products bought and sold** – Report the cost of all products bought and sold in the same condition as when purchased, and not made part of another product manufactured by this establishment. (Total sales value of all products sold is to be reported in item 18 on the line for resales.)

▶ **Item 5c – Cost of fuels consumed** – Report the total cost of all fuels consumed for heat, power, transportation, or the generation of electricity. Do not include the estimated cost of fuels, such as sawdust or blast furnace gas, produced as a by-product of your manufacturing activities. Include anthracite and bituminous coal, coke, natural and manufactured gas, fuel oil, liquefied petroleum gas, gasoline, and all other fuels including purchased steam.

▶ **Item 5d – Cost of purchased electricity** – Report the total cost of electric energy purchased from other companies or received from other establishments of your company. Exclude the value of electricity generated and used at this establishment.

▶ **Item 5e – Cost of contract work done for you by others on your materials** – If any contract work was done by others on materials furnished by your establishment, report the total payments made during the year for such work, including freight out and in. Exclude the cost of materials worked on, which should be included in item 5a.

▶ **Item 8 – Capital expenditures during year (Exclude expenditures for land)** – Include all costs actually incurred during 1977 chargeable to the fixed assets accounts and of the type for which depreciation or amortization accounts are ordinarily maintained. This should include construction and repair work performed by your own forces.

CONTINUE ON PAGE 3 ➡

FORM MC-36B (Rev.) U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

SWITCHGEAR AND SWITCHBOARD APPARATUS AND INDUSTRIAL CONTROLS – Continued

PLEASE ENTER THIS ESTABLISHMENT'S 11-DIGIT CENSUS FILE NUMBER

Name of establishment (Same as address box)

Item 17A WATER USE DURING 1977

348

1. What was the total quantity of water intake for this establishment for use in the production process and auxiliary operations (such as cooling and condensing, sanitary services, and boiler feed) during the calendar year 1977?

Mark (X) one box only

1 ☐ Under 1 million gallons
2 ☐ 1–9 million gallons
3 ☐ 10–19 million gallons
4 ☐ 20–49 million gallons
5 ☐ 50–99 million gallons
6 ☐ 100 million gallons or over

349

2. Did you recirculate any water during the calendar year 1977? . . . . . 1 ☐ YES 2 ☐ NO

Item 17B CONSUMPTION OF SELECTED MATERIALS DURING 1977

Instructions - Please read

1. **GENERAL** – The materials, parts, and supplies listed below are those commonly consumed in the manufacture, processing, or assembly of the products listed in item 18. Please review the entire list and **report separately** for each item consumed. The materials, parts, and supplies consumed at this establishment which are not prelisted should be described and reported in the "All other materials, etc." line at the end of this section. If your consumption of a listed material is valued at less than $10,000, enter an (X) in column (E) and include the value with "All other materials, etc." Census material code 970099 8.

   If your book records do not contain information as requested, **reasonable estimates are acceptable.**

2. **VALUATION OF MATERIALS CONSUMED** – The value of the materials, etc., consumed should be based on the delivered cost, i.e., the amount paid or payable after discounts and including freight and other direct charges incurred in acquiring the materials. This includes purchases, transfers from other establishments of your company, and withdrawals from inventories. Materials transferred to you from other plants within your company should be assigned their full economic value, as assigned by the shipping plant, plus cost of freight and handling charges.

3. **CONTRACT WORK** – Materials purchased for use by others making products for you on a contract basis should be included. Amounts paid to other companies for such contract work should be reported in item 5e, and should include freight in and out. Materials owned by others but used at this establishment in making products for others under contract or on commission should be excluded.

4. **MATERIALS PRODUCED AND CONSUMED** – Materials, parts, and supplies which are produced and consumed in the same establishment in the manufacture of products should be reported in column (C-1). Please report only the quantities of these materials produced and consumed. If the specific input materials used to produce these items are listed, the quantity and value should be reported in columns (C-2) and (D). If not, the cost should be included in the "All other materials, etc." line, Census material code 970099 8.

Line number	Materials, parts, and supplies (A)			5 Census material code 571 (B-1)	Unit of measure for quantities (B-2)	Quantities produced and consumed 572 (C-1)	Materials purchased and consumed: Quantity 573 (C-2)	Materials purchased and consumed: Cost, including delivery cost (freight-in) (D) 574 Millions 000	Thousands 000	Dollars 000	If you consumed less than $10,000 of the item enter (X) 575 (E)
1	MILL SHAPES AND FORMS (EXCEPT CASTINGS)	Carbon steel	Bars and bar shapes	331011 7	Short tons			$			
2			Sheet and strip	331012 5							
3			Plates	331013 3							
4			Structural shapes	331015 8							
5			All other	331019 0							
6		Alloy steel (except stainless)		331020 8							
7		Stainless steel	Sheet and strip	331033 1							
8			All other	331050 5							
9		Insulated wire and cable, except magnet wire	Copper – Report quantity of copper content only in column (C-2)	335792 8	Thousand pounds						
10			Aluminum – Report quantity of aluminum content only in column (C-2)	335793 6							
11		Magnet wire		335770 4							
12		Copper and copper-base alloy	Bare wire (for electrical conduction only)	335728 2							
13			Rod, bar, and mechanical wire, including extruded and/or drawn shapes	335102 0							
14			Plate, sheet, and strip, including military cups and discs	335143 4							
15			Pipe and tube	335152 5							
16		Aluminum and aluminum-base alloy	Sheet, plate, and foil	335301 8							
17			Extruded shapes, including extruded rod, bar, pipe, tube, etc.	335405 7							
18			All other (wire, rolled rod and bar, powder, welded tubing, etc.)	335008 9							
19	CASTINGS (ROUGH AND SEMIFINISHED)	Steel		332045 4	Short tons						
20		Aluminum and aluminum-base alloy		336100 3	1,000 lbs.						
21		Copper and copper-base alloy		336200 1	1,000 lbs.						
22	INDUSTRIAL ELECTRICAL CONTROL EQUIPMENT	(Received for incorporation only into other industrial electrical control equipment shipped, as such, by this plant) Purchased from other companies		362200 8							
23		Received from other plants of your company		362209 9							
24	Porcelain, steatite, and other ceramic electrical products			326400 9							
25	Plastic products consumed in the form of sheets, rods, tubes and other shapes			307903 5							
26	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but exclude sheets, rods, tubes and shapes			282104 9	Thousand pounds						
27	Nonferrous metal smelter and refinery shapes, including precious metal			333001 6	Thousand pounds						
28	Bolts, nuts, screws, rivets, and screw machine products			345001 2							
29	Switches, except snap, toggle and push, and circuit breakers			361301 5							
30	Electric motors, generators and parts			362101 8							
31	Sheet metal products, except stampings			344401 5							
32	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors			367001 5							
33	Cost of all other materials and components, parts, containers, and supplies consumed including those values checked in column (E) . . . . . *Describe the three principal materials, etc., included in this value.*			970099 8							
34	**TOTAL** *Sum of lines 1–33 should be same as item 5a*							$			

CONTINUE ON PAGE 4 →

Form MC-36B (Rev.)

Item 18 PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1977

Instructions - Please read

1. **GENERAL** – The products and services listed below are those that are generally made in your industry. Please review the entire list before completing the inquiry. If you produce products that are not prelisted, they should be described and reported in the "All other products" section at the end of item 18. **Please do not combine product lines.**

   Products for which quantity data are requested should be reported in the unit of measure specified.

   If your book records do not contain information as requested, **reasonable estimates are acceptable.**

2. **VALUATION OF PRODUCTS** – The value of the products shipped and services performed should be based on the **net selling value, f.o.b. plant,** after discounts and allowances, and exclusive of freight charges and excise taxes.

   When transferring products to other establishments within your company, the shipping plant should assign the full economic value to the transferred products, i.e., include all direct costs of production and a reasonable proportion of all other costs and profits.

3. **PRODUCTS BOUGHT AND SOLD WITHOUT FURTHER MANUFACTURE** – Products which you purchase and sell as originally purchased (not used in the further manufacturing, processing, or assembling of products made in this establishment) should be reported as "Resales," Census product code 99989 00 6.

4. **CONTRACT WORK**

   a. **Products made by others for you from your materials:** Report such products on the specific lines of this section as if they were made in this establishment.

   b. **Products that you made from materials owned by others:** Report the amount that you received for "commission or contract receipts" on line 29, Census product code 93000 00 8. Do not report on the specific product lines for these products.

5. **DETAILED DATA REPORTED ELSEWHERE** – This report requires totals for groups of products covered in more detailed Current Industrial Reports (CIR). If you report on the CIR forms the value of shipments for items designated by an asterisk should equal the sum of the detail reported on the CIR's.

Line number	Products and services (5) — * Item corresponds to products reported on Current Industrial Reports (A)	Census product code (581) (B-1)	Unit of measure for quantities (B-2)	Corresponds to the sum of products for 1977 reported on – Census form (B-3)	Corresponds to the sum of products for 1977 reported on – Code (B-4)	Products shipped and other receipts: Quantity (583) (D)	Value, f.o.b. plant (E) (584) Millions 000	Thousands 000	Dollars 000
1	Switchgear, except ducts and relays (36131)*	36131 00 1		MA-36A	3613109–3613193		$		
2	Power circuit breakers, all voltages (36132)*	36132 00 9			3613215–3613230				
3	Low voltage panelboards and distribution boards and other switching and interrupting devices, 750 volts and under (36133)*	36133 00 7			3613311–3613398				
4	Fuses and fuse equipment under 2300 volts, except power distribution cut-outs (36134)*	36134 00 5			3613431–3613493				
5	Molded case circuit breakers, 750 volts and under (36135)*	36135 00 2			3613511–3613595				
6	Duct, including plug-in units and accessories, 750 volts and under (36136)*	36136 00 0			3613611–3613631				
7	Relays, control circuit (36137)*	36137 00 8			3613701–3613704				
8	General industry power circuit devices, controls, and parts (36220)*	36220 00 2			3622012–3622099				
9	Integrating instruments, electrical (38251)*	38251 00 5		MA38B	3825110–3825161				
10	Instruments to measure electricity (38253)*	38253 00 1		MA38B	3825308–3825376				
11	Power mercury arc rectifiers	36292 51 4	No. of units						
12	Current-carrying wiring devices, including lightning rods (36430)*	36430 00 7		MA36K	3643001–3643099				
13	Electrical metallic conduit and conduit fittings (36442)*	36442 00 2		MA36K	3644221–3644273				
14	Resistors for electronic applications (36700)*	36700 00 3	Thousands of units	MA36N	3676011–3676064				
15	Controls for monitoring residential and commercial environments and appliance regulating controls (38220)*	38220 00 0		MA38B	3822020–3822080				
16	Fractional horsepower motors (exclude hermetics) (36211)*	36211 00 1		MA36H	3621101–3621185				
17	Fractional motor-generator sets and other rotating equipment, including hermetics (36217)*	36217 00 8		MA36H	3621721–3621798				
18	Land transportation motors, generators, control equipment and parts (36213)*	36213 00 7		MA36H	3621311–3621398				
19	Parts and supplies for motors, generators, and motor generator sets, except for land transportation equipment. (Exclude motors for built in jobs)	36219 11 1							
20	Parts and attachments for adding, calculating, accounting machines and cash registers produced by complete machine manufacturers *	35745 10 8		MA35R	3574510				
21	Copper and copper-base alloy wire (bare and tinned) for purposes other than electrical transmission (alloyed)	33511 31 2	Short tons						
22	Galvanizing and other hot dip coatings	34790 31 1							
23	**ALL OTHER PRODUCTS MADE IN THIS ESTABLISHMENT** — *Describe and report separately for each product whose value was $50,000 or more and **not listed above.** Specify unit of measure for quantity.*								
24									
25									
26									
27									
28	*Report a single total value for your remaining products **not listed above.***	77777 00 1							
29	**CONTRACT WORK** — Receipts for work done for others on their own materials ..... *Describe products worked on and kind of work*	93000 00 8							
30	**MISCELLANEOUS RECEIPTS** — Sales of scrap and refuse	99980 13 8							
31	Receipts for repair work	99980 61 7							
32	Other miscellaneous receipts	99980 98 9							
33	**RESALES** — Sales of products **bought and sold without further manufacture, processing, or assembly** in this establishment. *The cost of such items should be reported in item 5b.*	99989 00 6							
34	**TOTAL** *Sum of lines 1–33 column (E)*	77000 00 8					$		

CONTINUE ON PAGE 5 ➔

FORM MC-36B (Rev.) U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

SWITCHGEAR AND SWITCHBOARD APPARATUS AND INDUSTRIAL CONTROLS – Continued

PLEASE ENTER THIS ESTABLISHMENT'S 11-DIGIT CENSUS FILE NUMBER

Name of establishment (same as address box)

Item 19 – Not applicable to this form

Item 20 SELECTED METALWORKING AND RELATED OPERATIONS PERFORMED IN THIS ESTABLISHMENT DURING 1977

	5 Census code	YES	NO
	591	592	592
Were any of the operations listed below performed in this establishment in 1977?	208	1 ☐	2 ☐

Mark (X) appropriate box

If "Yes," indicate in column (C) by marking appropriately, which of the specified operations were performed in this establishment during 1977. Where "Yes" is marked, show in column (D) the approximate number of production workers on all shifts usually engaged in the specified operation.

Line number	Operation (A)	5 Census code 591 (B)	Was this operation performed in this establishment during 1977? 592 (C) Yes	(C) No	Number of production workers (on all shifts) usually employed when operated (estimate if necessary) 593 (D)
1	Foundry (iron or steel)	018	1 ☐	☐	
2	Foundry (nonferrous, except die casting)	026	1 ☐	☐	
3	Electroplating and other plating	059	1 ☐	☐	
4	Heat treating of metals for production purposes	075	1 ☐	☐	
5	Automatic screw machine department	083	1 ☐	☐	
6	Machine shop	091	1 ☐	☐	
7	Tool and die shop (if separate from machine shop) for jigs, fixtures, dies, and other special tooling	109	1 ☐	☐	
8	Pattern shop (foundry patterns only – metal, wood, etc.)	117	1 ☐	☐	
9	Plate or structural fabrication	125	1 ☐	☐	
10	Stamping, blanking and forming of metals	133	1 ☐	☐	
11	Painting, lacquering and enameling on metals	141	1 ☐	☐	
12	Plastics molding	158	1 ☐	☐	

Item 21 – Not applicable to this form

Remarks – *Please use this space for any explanation that may be essential in understanding your reported data.*

Item 22 CERTIFICATION

This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report	Telephone: Area code	Number	Extension

Period covered → From: Mo. Day Year To: Mo. Day Year

Address – *Number and street*

Signature of authorized person

City	State	ZIP code	Title	Date

PENALTY FOR FAILURE TO REPORT — DUE DATE: FEBRUARY 15, 1978

FORM MC-37EX
(RAILROAD SHOPS)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

LOCOMOTIVES AND CARS BUILT AND REBUILT IN SHOPS OF OPERATING RAILROADS

Please complete and return this form as soon as possible after receipt to

BUREAU OF THE CENSUS
Industry Division
Washington, D.C. 20233

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

In correspondence pertaining to this report, please refer to this Census File Number

Employer Identification Number

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Instructions - Please read

Please return one copy of this report to the Bureau of the Census, Industry Division, Washington, D.C., 20233, WITHIN 30 DAYS. A separate report should be completed for each shop of your company at which any locomotives or railroad cars were built or rebuilt during 1977.

Include as "rebuilt" locomotives and railroad cars those for which the cost of their dismantling, improvement, and modernization is more than 50 percent of the replacement cost of a new unit of the same class and kind at the time of rebuilding. Do not include as "rebuilt" any conversions or reclassifications, nor units which were reconditioned by replacing defective parts. The values reported for "rebuilt" locomotives and cars should represent the additional value written into the property account.

Item A – NAME OF ESTABLISHMENT COVERED BY THIS REPORT			
Item B – LOCATION OF ESTABLISHMENT	Number and street		
	City	State	ZIP code
Item C – NATURE OF ACTIVITY	Describe briefly the kind of activity of this establishment		
Item D – MAN-HOURS OF PRODUCTION WORKERS	Were more than 50 percent of the total production worker man-hours worked at this shop during 1977 devoted to building or rebuilding locomotives, passenger cars, or freight cars? ☐ Yes ☐ No		

PLEASE CONTINUE ON PAGE 2

Form MC-37EX Page 2

Item E PRODUCTS MADE IN RAILROAD SHOP DURING 1977

Instructions - Please read

Columns (D) and (E) — Total built and rebuilt — Locomotives and cars built and rebuilt by railroads in their shops for their own use should be reported when they are transferred from the shop to the operating part of the company. The value of new locomotives and cars built by railroads for their own use should represent the amount at which they were written into the property accounts. The value reported for locomotives and cars "rebuilt" by railroad companies should represent the additional value written into the property account.

Report separately each product listed; do not combine product lines.

Lines 1–4, 21, and 22 — Include under "rebuilt," locomotives and railroad cars for which the cost of their dismantling, improvement, and modernization is more than 50 percent of the replacement cost of a new unit of the same class and kind at the time of rebuilding. Do not include as rebuilt any units which were reconditioned by replacing defective parts. Do not include conversions or reclassifications.

Column (F) — Weight of items reported in column (D) — Report the weight of locomotives and cars as the empty light weight or "tare" weight.

Line number	Product (A)				Census product code 581 (B)	Total built and rebuilt: Quantity (NUMBER OF UNITS) 583 (D)	Total built and rebuilt: Value f.o.b. plant (THOUSANDS OF DOLLARS) 584 (E)	Weight of items reported in column (D) (SHORT TONS) 585 (F)
1	LOCOMOTIVES, BOTH NEW AND REBUILT, AND PARTS FOR LOCOMOTIVES SOLD SEPARATELY (37431)	Locomotives	Diesel-electric (except mining type)	Rail service type	37431 11 1		$	
2				Other types	37431 15 2			
3			Other (except mining type)	Rail service type	37431 21 0			
4				Other types	37431 25 1			
5			Mining type, including both new and rebuilt		37431 60 8			
6		Parts for locomotives	Air brakes		37431 72 3			
7			Other locomotive parts, except wheels and axles		37431 79 8			
8	PASSENGER AND FREIGHT TRAIN CARS, NEW (37432)	Freight train cars, new	Box		37432 11 9			
9			Flat		37432 15 0			
10			Gondola		37432 25 9			
11		Hopper (covered)	Steel		37432 28 3			
12			Aluminum		37432 32 5			
13			Other		37432 34 1			
14		Hopper (uncovered)			37432 31 7			
15		Tank			37432 41 6			
16		Caboose			37432 45 7			
17		Other freight train cars, including refrigerator cars and industrial rail cars	Suitable for common carrier service		37432 51 5			
18			Not suitable for common carrier service		37432 52 3			
19		Passenger train cars, new	Self-propelled vehicles designed to carry passengers or articles		37432 61 4			
20			Non-self-propelled vehicles, including coach, coach combination, etc.		37432 62 2			
21	STREET CARS, PARTS AND ACCESSORIES FOR RAILROAD CARS AND STREET CARS, AND REBUILT PASSENGER AND FREIGHT TRAIN CARS (37433)	Rebuilt passenger and freight train cars	Rebuilt passenger train cars		37433 31 5			
22			Rebuilt freight train cars		37433 51 3			
23		Self-propelled street cars, subway cars, rapid transit, trolley buses, etc.			37433 61 2			
24		Non-self-propelled street cars, subway cars, rapid transit, trolley buses, etc.			37433 62 0			
25		Other work and service railroad vehicles (exclude locomotive cranes)			37433 69 5			
26		Parts and accessories for railroad and street cars	Airbrake equipment		37433 71 1			
27			Other railroad and street car parts and accessories		37433 79 4			
28	**TOTAL** *Sum of lines 1–27*				77000 00 8	→	$	

Remarks — *Please use this space for any explanation that may be essential in understanding your reported data.*

Item F CERTIFICATION

This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report	Telephone: Area code	Number	Extension	Period covered → From: Mo. Day Year	To: Mo. Day Year

Address — *Number and street*	Signature of authorized person	

City	State	ZIP code	Title	Date

PENALTY FOR FAILURE TO REPORT — DUE DATE: — Form Approved O M B No. 41-R2611

FORM MA-100(SU) — U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

1977 ANNUAL SURVEY OF MANUFACTURES

NOTE ▶ • This is the first sheet of the 1977 Census of Manufactures form • PLEASE READ INSTRUCTION MANUAL

110 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 — 111 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8

201 TAB
202 IND-T
203 AREA
204 INFL
205 CCS

NOTICE – Response to this inquiry is **required by law** (title 13, U S. Code). By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

RETURN TO ▶ Bureau of the Census
1201 East Tenth Street
Jeffersonville, Indiana 47132

In correspondence pertaining to this report refer to this Census File Number (11 digits) ▼ — Employer Identification Number ▼

(Please correct any error in name and address including ZIP code)

ITEM 1A Physical Location — Complete a, b, and c.

a. Is this establishment located in the State, county, and place shown below? (If blank or incomplete, please complete (1) through (4).) 650
1 ☐ YES – SKIP to part b
2 ☐ NO – Correct or complete lines (1) through (4)

(1) Number and street

(2) City, village, or other place | State | ZIP code

(3) County | (4) If you corrected lines 1, 2, 3, give year moved to new location | 19__

b. Type of municipality indicated in 1Aa(2)
1 ☐ City 2 ☐ Town 3 ☐ Village 4 ☐ Borough 5 ☐ Township 6 ☐ Unincorporated 7 ☐ Other – Specify 8 ☐ Don't know

c. Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1Aa(2)?
1 ☐ Yes 2 ☐ No 3 ☐ No legal boundaries 4 ☐ Don't know

NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which it takes its name.

ITEM 1B Employer Identification Number(s) — Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941?
☐ YES ☐ NO – Enter current EI number → (9-digits) 108

ITEM 1C Organizational status — 109
Mark (X) the **ONE** box which best describes this establishment during 1977
1 ☐ Individual proprietorship 2 ☐ Partnership 0 ☐ Corporation (Do not mark if any form of cooperative association) 8 ☐ Cooperative association (corporate or non-corporate) 9 ☐ Other – Specify

NOTE ▶ Figures for dollars, man-hours, KWH should be rounded to thousands. However, you may enter figures to nearest dollars. Carefully enter your figures in the correct columns, e.g., if payroll is $1,125,628, report either . . . . . OR

	Mil.	Thou.	Dols.
$ 1	126		
OR $ 1	125	628	

Complete each item, enter "0" when appropriate.

	Key	1977 Number	1976 Number
ITEM 2 – Number of employees			
Number of production workers during pay period including the 12th of month — a. March	301		
b. May	302		
c. August	303		
d. November	304		
e. Sum of lines a–d	305		
f. Average number (Divide line e by 4)	306		
g. All other employees (pay period of March 12)	307		
h. TOTAL f and g (Item 2) →	308		

ITEM 3A – Annual payrolls		1977 Mil.	1977 Thou.	1977 Dols.	1976 Mil.	1976 Thou.	1976 Dols.
a. Production workers' wages	309						
b. All other salaries and wages	310						
c. TOTAL (Item 3A) →	311						
ITEM 3B – Employer's cost for fringe benefits (supplemental labor costs) (Exclude from items 3A and 3C)							
a. Legally required including Social Security	312						
b. Payments for voluntary programs	313						
c. TOTAL (Item 3B) →	314						
ITEM 3C – First quarter payroll							
Total payroll for the first quarter (Jan.–March)	315				XXX	XXX	XXX

ITEM 4 – Plant hours worked by production workers		1977 Mil.	1977 Thou.	1977 Hours	1976 Mil.	1976 Thou.	1976 Hours
a. January through March	316						
b. April through June	317						
c. July through September	318						
d. October through December	319						
e. TOTAL (Item 4) →	320						

Complete each item, enter "0" when appropriate.

	Key	1977 Mil.	1977 Thou.	1977 Dols.	Key	1976 Mil.	1976 Thou.	1976 Dols.
ITEM 5 – Cost of materials and services used								
a. Cost of materials, parts, components, containers, etc., used	321							
b. Cost of products bought and sold as such	322							
c. Cost of fuels consumed for heat or power (See item 12)	323							
d. Cost of purchased electricity (See item 6)	324							
e. Cost of contract work done for you by others	325							
f. TOTAL (Item 5) →	326							

ITEM 6 – Quantity of electricity		1977 Kilowatt hours Mil.	1977 Thou.	1977 Units	1976 Kilowatt hours Mil.	1976 Thou.	1976 Units
a. Purchased electricity (quantity comparable to cost as reported in item 5d)	327						
b. Generated electricity (gross less generating station use)	328						
c. Electricity sold or transferred to other establishments	329						

ITEM 7 – Inventories of this establishment at end of year (Report both years)		1977 Mil.	1977 Thou.	1977 Dols.	Key	1976 Mil.	1976 Thou.	1976 Dols.
a. Finished products	335				331			
b. Work-in-process	336				332			
c. Materials, supplies, fuels, etc.	337				333			
d. TOTAL (Item 7) →	338				334			

ITEM 8 – Depreciable assets, capital expenditures, and retirements

Refer to the Instruction manual for detailed instructions.

(a)	Key	1977 Total (b) Mil.	Thou.	Dols.	Key	Buildings and other structures (exclude land) (c) Mil.	Thou.	Dols.	Key	Machinery and equipment (d) Mil.	Thou.	Dols.	1976 Total (e) Mil.	Thou.	Dols.
a. Gross value of depreciable assets (usually original cost) at beginning of year	341				339				340						
b. Capital expenditures for new buildings and machinery	344				342				343						
c. Capital expenditures for used buildings and machinery	347				345				346						
d. Retirements and disposition of depreciable assets (i.e., gross value of assets sold, retired, scrapped, destroyed, etc.)	353				351				352				XXX	XXX	XXX
e. Gross value of depreciable assets at end of year (should equal lines 8a+8b+8c–8d)	356				354				355						
ITEM 9 – Depreciation charges for the year	359				357				358				XXX	XXX	XXX
ITEM 10 – Rental payments	362				360				361						

ITEM 11A Total value of products shipped and other receipts

For 1977 report the total value of products shipped and other receipts as entered in **item 18.** This value should be completely comparable to the total reported for 1976. If the two figures are not comparable, please explain the reasons why in the remarks section. (Reporting by product class is not required for 1977.) →

Key	1977 Value (a) Mil.	Thou.	Dols.	1976 Value (b) Mil.	Thou.	Dols.
330						

ITEM 11B Value of products exported (also included in item 11A)

Report the value of products shipped for EXPORT. Include direct exports and products shipped to exporters or others for export. Do not include products shipped for further manufacture, assembly, or fabrication in the United States. 370
1 ☐ $0–24,999
2 ☐ $25,000 or more – Report the value of exports → 371

ITEM 11C Unfilled orders (See instruction manual)

a. Does this establishment primarily produce for stock and fill orders from inventory? 372 — 1 ☐ Yes 2 ☐ No

b. What is the number of months normally required to fill an order? 373 — 1 ☐ Less than one month 2 ☐ 1 or 2 months 3 ☐ 3 months or more

NOTE – If there are any qualifications regarding the unfilled orders data, please explain in the remarks section on the reverse side and complete all parts of this item.

c. Report the value of unfilled orders on your books as of the end of the year → 374

CENSUS USE

MA-100 SU 5-77

CONTINUE ON PAGE 2 ➡

Page 2

ITEM 12 — Purchased fuels used for heat, power, and generating electricity in 1977

Kind of fuel (a)	Code 5 561 (b)	Unit of measure for quantities (c)	1977 Quantity 563 (d)	1977 Cost, including delivery cost (freight-in) 564 (e) Mil.	Thou.	Dols.	Unit cost calculation: Calculated unit cost (f)	Unit cost calculation: Usual range of unit costs (Please explain unusual figures in remarks) (g)
1. Coal	121005 3	Short ton					$ per ton	$10–$90 per ton
2. Coke (including breeze)	331210 5	Short ton					per ton	40–150 per ton
3. Distillate fuel oil (#'s 1, 2, 4, and light diesel)	291141 0	Bbl. (42 gal.)					per bbl.	5–25 per bbl.
4. Residual fuel oil (#'s 5, 6 and heavy diesel)	291151 9	Bbl. (42 gal.)					per bbl.	5–25 per bbl.
5. Natural gas	131157 0	1,000 cu. ft.					per MCF	0.25–4.00 per MCF
6. Other fuels — *Specify kind*	960011 5							
7. **TOTAL COST OF FUELS** *(Should equal cost shown in item 5c, page 1)* →								

ITEM 13 — Method of valuation for inventories reported for 1977 in Item 7

Using the inventory total reported for this establishment in item 7d for 1977, please indicate the breakdown of that total according to the inventory valuation methods shown.

- **Cost method** — Report amounts on lines 1a–f.
- **Market basis always used** — Report amounts on line 2b.
- **Lower of cost or market** — Report amounts valued at cost on lines 1a–f according to the applicable methods and the amount at market on line 2a.

Method of valuation (a)		Key	Amount at end of 1977 (b) Mil.	Thou.	Dols.
1. Cost	a. First-in, First-out (FIFO)	381			
	b. Last-in, First-out (LIFO)	382			
	c. Average cost	383			
	d. Specific or actual cost	384			
	e. Standard cost	385			
	f. Other — *Specify*	386			
2. Market	a. Market used for valuation because market lower than cost	387			
	b. Market always used for valuation	388			
	TOTAL *(Equals the total reported in item 7d for 1977)* →	389			

During the calendar year 1977 did you change the method of valuating the inventories that you reported for this establishment?

1 ☐ YES — *Indicate the nature of the changes in remarks.*

2 ☐ NO

397

ITEM 14 — Cost of purchased services *(See Instruction Manual)*

	Key	1977 Mil.	Thou.	Dols.
1. Repair of buildings and other structures	390			
2. Repair of machinery	391			
3. Cost of purchased communication services (telephone, telegraph, etc.)	392			

ITEM 15 — Breakdown of machinery and equipment expenditures by type reported in item 8b, col. d *(See instruction manual)*

	Key	1977 Mil.	Thou.	Dols.
1. Automobiles, trucks, etc., for highway use	393			
2. Computers and peripheral data processing equipment	394			
3. All other expenditures for new machinery and equipment	395			
TOTAL *(Should be the same as item 8b, column d)* →				

ITEM 16A — Status of this establishment during 1977 *(Be sure to indicate the date of any change.)*

112 *MARK (X) ONE BOX*

	Enter figures only Mo.	Day	Year
1 ☐ No change in operator or operations			
2 ☐ Reorganized — Complete report for full year and describe type of change in remarks.			
3 ☐ Started new business (newly constructed or completely equipped when started)			
6 ☐ Establishment was acquired or leased from another company			
☐ Building only acquired			
☐ Complete plant acquired (building, machinery, and equipment)			
Name of former operator / EI Number *(9 digits)*			
Number and street, city, State, ZIP code			
4 ☐ Establishment closed (no new owner or operator), dismantled, abandoned, or destroyed on			
5 ☐ Establishment idle or inactive but still owned			
7 ☐ Establishment was sold or leased to another company			
☐ Building only sold			
☐ Complete plant sold (building, machinery, and equipment)			
Name of new operator / EI Number *(9 digits)*			
Number and street, city, State, ZIP code			

ITEM 16B — Company organization

113

a. Is this company owned or controlled by another company? 1 ☐ YES → 2 ☐ NO

Enter the company name and address *(Number and street, city, State, ZIP code)* and EI number. *If more space is needed to list companies, use remarks section.*

603 Name and address of owning or controlling company — EI Number *(9 digits)*

114

b. Does this company own or control any other company or companies? 1 ☐ YES → 2 ☐ NO

604 Name and address of owned or controlled company — EI Number *(9 digits)*

c. Did this company have any manufacturing plants under construction but not in operation at the end of the year? 1 ☐ YES 2 ☐ NO

d. Did you operate at more than one location during the survey year? *If more space is needed, attach separate sheet.* 1 ☐ YES — *List additional locations below* 2 ☐ NO — *SKIP to item 16C below*

Physical address of business location *(Number and street, city, State, ZIP code)* (a)	Employer Identification Number (b)	Kind of business at this location (c)	Sales and receipts (d) Mil.	Thou.	Dols.	Annual payroll (e) Mil.	Thou.	Dols.	Number of employees (f)	Are these figures included on the front of this report? (g)
605	606	607	608			609			610	☐ YES ☐ NO
605	606	607	608			609			610	☐ YES ☐ NO

ITEM 16C — CHECKS to assure a complete and accurate report

The Bureau of the Census reviews your report for omissions, inconsistencies, and unusual ratios. To save you future correspondence about these problems, please make the following checks before returning your report.

(1) Review the report carefully to see that no items are omitted for the year being covered.
(2) Calculate and enter figures for the four "reasonableness" checks below, and review the results.
(3) Correct your report for any errors you find and explain unusual figures in remarks.

For most manufacturing establishments, the figures computed usually fall within the ranges indicated.

"Reasonableness" checks	Calculation required for each check	Figures for survey year	Usual range
a. Average hourly wages per production worker	Item 3Aa (Production workers' wages) ÷ item 4e (Total hours worked)	$/hr.	$2 – $10
b. Hours worked per year per production worker	Item 4e (Total hours worked) ÷ item 2f (Average number of production workers)	hrs./yr.	1000 – 3000
c. Salaries and wages per dollar of shipments	Item 3Ac (Total payroll) ÷ item 11A (Total value of shipments)	¢	05¢ – 95¢
d. Materials cost per dollar of shipments	Item 5f (Total materials cost) ÷ item 11A (Total value of shipments)	¢	05¢ – 95¢

e. Is the total for Value of Shipments (item 11A) greater than the sum for payroll (item 3Ac) plus total Cost of Materials, etc. (item 5f)? ☐ YES ☐ NO — *Explain in remarks*

Remarks — *Please use this space for any explanations that may be essential in understanding your reported data.*

PENALTY FOR FAILURE TO REPORT
DUE DATE: FEBRUARY 15, 1978

Form Approved: O.M.B. No. 41-S77001

FORM CB-50F (5006)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 CENSUS OF DISTRIBUTIVE TRADES

ELECTRICAL GOODS

Important — PLEASE READ ALL ACCOMPANYING INSTRUCTIONS

NOTICE — Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

In correspondence pertaining to this report, please refer to this Census File Number

CB-50F (5006)

Employer Identification Number

Please complete this form and RETURN TO

BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, Indiana 47132

Census use only	Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

KEEP THIS COPY FOR YOUR FILES

PLEASE COMPLETE AND RETURN THE FORM WHICH SHOWS YOUR NAME AND ADDRESS

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Item 1 – PHYSICAL LOCATION OF ESTABLISHMENT – In order to assign this establishment to the correct geographic area, the Bureau of the Census must know the actual location **which may differ from the mailing address.** *Complete items a through g.*

a. Address number and street name of physical location – *If not known, enter building name, shopping center name, or other physical location description. Do not enter P.O. box or rural route.*

Mark (X) for a, b, c, and d if same as mailing label; if different show corrections.

Same as mailing label [ ] OR ▶

b. Name of city, town, village, borough, etc., of physical location

Same as mailing label [ ] OR ▶

c. State — Same as mailing label [ ] OR ▶

d. ZIP code — Same as mailing label [ ] OR ▶

e. Type of municipality indicated in 1b (*Mark (X) one*)
1 [ ] City 2 [ ] Town 3 [ ] Village 4 [ ] Borough 5 [ ] Township 6 [ ] Unincorporated 7 [ ] Other – *Specify* _____ 8 [ ] Don't know

f. Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1b?
1 [ ] Yes 2 [ ] No 3 [ ] No legal boundaries 4 [ ] Don't know

NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which the post office takes its name.

g. Name of county (Louisiana parish) of physical location

Item 2 – EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941?

YES

NO – *Enter current EI number* ▶ (9 digits) [ ][ ][ ]–[ ][ ][ ][ ][ ][ ][ ]

Item 3 – OPERATIONAL STATUS

a. Mark (X) the **ONE** box which best describes this establishment at the end of 1977.

001
1 [ ] In operation
2 [ ] Temporarily or seasonally inactive
3 [ ] Ceased operation – *Give date* ▶
4 [ ] Sold or leased to another operator } *Give date AND name, etc.* ▶

Figures only

Month	Day	Year

Name of new owner or operator

Number and street

City | State | ZIP code

b. How many months during 1977 did this firm or organization actively operate this establishment? 002 Number of months

Item 4 – ORGANIZATIONAL STATUS

a. Mark (X) the **ONE** box which best describes this establishment during 1977.

003
1 Individual proprietorship
2 Partnership
8 Cooperative association
5 Governmental – *Specify* _____
6 Corporation (other than specified above)
9 Other – *Specify* _____

b. Was all or part of the income of this establishment or organization exempt from Federal income taxes under Section 501 or 521 of the Internal Revenue Code? 004 1 YES 2 NO

Important – Please read

Dollar figures should be reported as illustrated. Please be careful to enter the figures in the **correct columns.** See example below:

EXAMPLE: If figure is $1,125,628.28 ▶

	Millions (000)	Thousands (000)	Dollars (000)
*PREFERRED method	1	125	
Acceptable method	1	125	628

Item 5 – DOLLAR VOLUME OF BUSINESS IN 1977

a. Sales and other operating receipts **EXCLUDING** sales (or other) taxes collected — 010 Mil. | Thou. | Dol.

b. Were sales (or other) taxes collected from customers and forwarded to taxing authorities? 011 1 YES 2 NO

If "YES," report the amount of such taxes (**DO NOT** include taxes in 5a above) — 012 Mil. | Thou. | Dol.

c. TOTAL SALES and other operating receipts including sales (or other) taxes (Sum of 5a and 5b above) ▶ 013

d. Did this establishment sell merchandise on a commission basis? 100 1 YES 2 NO
If "YES," go to 5e. If "NO," SKIP to 5g.

e. Gross selling value of business conducted for the account of others (Include in 5a) — 101 Mil. | Thou. | Dol.

f. Dollar volume of commissions or brokerage received on transactions negotiated for others — 102 Mil. | Thou. | Dol.

g. Did your company (including firms under common ownership and control) manufacture or mine, in the United States or its possessions, 50% or more of the products sold by this establishment? 103 1 YES 2 NO

h. Did this establishment have transfers (billings) to other establishments within your company? 104 1 YES 2 NO
If "YES," go to 5i; if "NO," SKIP to item 5j.

i. Dollar volume of transfers (billings) to other establishments within your company (**DO NOT** include in 5a) — 105 Mil. | Thou. | Dol.

j. Did construction receipts represent 50% or more of the total sales (as reported in 5a) of this establishment? 106 1 YES 2 NO

Item 6 – PAYROLL AND EMPLOYMENT

a. Payroll

(1) **Total ANNUAL** payroll in 1977 before deductions — 030 Mil. | Thou. | Dol.

(2) Payroll for the **FIRST QUARTER** of 1977 — 031 Mil. | Thou. | Dol.

b. Employment – Number of paid employees for the pay period including the 12th of the month (include both full- and part-time employees)

032 (1) MAR	033 (2) MAY	034 (3) AUG	035 (4) NOV

Item 7 – OPERATING EXPENSES AND INVENTORIES

a. Total 1977 operating expenses, including payroll ▶ 040 Mil. | Thou. | Dol.

b. Did you have merchandise inventories during 1977? 045 1 YES – *Go to 7c* 2 NO – *SKIP to item 8*

c. Indicate the value of merchandise inventories on hand at the end of the year specified according to the valuation methods shown.

- **Cost method** – Report amounts on lines (1)(a) through (e)
- **Market basis always used** – Report amounts on line (2)(b)
- **Lower of cost or market** – Report amounts valued at cost on lines (1)(a) through (e) according to the applicable methods and the amount at market on line (2)(a)

Method of inventory valuation		Key	Amount at end of 1977 Mil.	Thou.	Dol.	Key	Amount at end of 1976 Mil.	Thou.	Dol.
(1) Cost	(a) First-in, First-out (FIFO)	110				120			
	(b) Last-in, First-out (LIFO)	111				121			
	(c) Average cost	112				122			
	(d) Specific or actual cost	113				123			
	(e) Other – *Specify*	114				124			
(2) Market	(a) Market used for valuation because market lower than cost	115				125			
	(b) Market always used for valuation	116				126			
(3)	TOTAL INVENTORIES (Sum of lines (1)(a) through (e) and lines (2)(a) and (b)) ▶	046				047			

Please continue on page 2 ▶

Item 8 – TYPE OF OPERATION – Mark (X) the **ONE** item that is best suited to your business – the basis on which the major portion of your operation was conducted in 1977.

a. Merchant (buying and selling on own account) – An establishment primarily engaged in buying and selling merchandise produced by other firms on its own account.

- **Importer** – Source of purchase is primarily foreign.
- **Exporter** – Purchasing goods in the United States for delivery to customers outside the United States.
- **Wholesale merchant, jobber, distributor** – Buying and selling merchandise in the United States for delivery in the United States.

b. Manufacturers' sales branch or sales office – An establishment primarily engaged in selling goods mined or manufactured in the United States and its possessions or Puerto Rico by your company, your parent company, or companies corporately affiliated with your company.

- **Sales branch** – Manufacturers' sales outlet which carries stock.
- **Sales office** – Manufacturers' sales outlet which does not carry stock.

c. Broker, agent, commission merchant – An establishment primarily engaged in selling (or buying) merchandise on an agency basis for others, but not dealing primarily on own account.

- **Auction company** – Selling merchandise for others at wholesale from a permanent location by the auction method.
- **Broker** – Selling (or buying) merchandise on a brokerage basis for others in the United States market, but not receiving goods on consignment.
- **Commission merchant** – Receiving goods on consignment and selling them in the United States market.
- **Import agent** – Representing, on an agency basis, firms outside the United States selling goods in the domestic market.
- **Export agent** – Representing, on an agency basis, domestic firms selling merchandise for delivery outside the United States or its possessions.
- **Manufacturers' agent** – Selling for a limited number of manufacturers on a continuing agency basis.

d. Other type of operation – If none of the above types apply, describe your method of operation.

060

- **a. Merchant (buying and selling on own account)**
  - (1) Importer ☐ 12
  - (2) Exporter ☐ 13
  - (3) Wholesale merchant, jobber, distributor ☐ 11
- **b. Manufacturers' sales branch or sales office**
  - (1) Sales branch (with stock) ☐ 21
  - (2) Sales office (without stock) ☐ 22
- **c. Broker, agent, commission merchant**
  - (1) Auction company ☐ 41
  - (2) Broker (representing buyers or sellers) ☐ 42
  - (3) Commission merchant ☐ 43
  - (4) Import agent ☐ 44
  - (5) Export agent ☐ 45
  - (6) Manufacturers' agent ☐ 46
- **d. Other type of operation** – *Specify* ☐

Item 9 – KIND OF BUSINESS – Mark (X) the **ONE** item that best describes the **principal** kind of business of this establishment in 1977. If none applies, mark the last item and enter the description by which your business is known to the trade or public.

070

- **a. Electrical goods**
  - (1) Electrical apparatus and equipment, wiring supplies, and construction materials ☐ 506300
  - (2) Electrical appliances, television and radio sets ☐ 506400
  - (3) Electronic parts and equipment ☐ 506500
- **b. Other kind of business** – *Specify* ☐

Item 10 – SALES BY COMMODITY LINES

Report the volume of sales of each of the listed commodity lines which account for at least 1% of this establishment's sales. If any commodities sold are not prelisted but account for 1% or more of total sales, write in the description and volume of sales in the space provided.

Sales may be reported either in dollar figures (see example on page 1), or as a percent (in whole percents) of the total (see example).

The sum of reported commodity lines should equal the total sales as reported in item 5a if dollars are reported; if percents are used, the sum should equal 100.

EXAMPLE FOR REPORTING PERCENTS — If figure is **38.76%** of total sales:

	Mil.	Thou.	Dol.	Percent
• Report whole percents →				39%
Not acceptable →				38.76%

Description	Census use only	Estimated sales during 1977 Mil.	Thou.	Dol.	Percent
Electrical goods	170	171			172
1. Electrical apparatus and equipment					
a. Power and distribution transformers	1311				
b. Switchgear and switchboard apparatus	1312				
c. Motors and generators	1313				
d. Industrial controls (power circuit devices and controls)	1314				
e. Electric lamps and bulbs	1316				
f. Interior wiring (Report conduit on line i)	1317				
g. Lighting fixtures (residential and commercial)	1318				
h. Communication equipment	1319				
i. Other electrical apparatus and equipment (Include conduits, transmission hardware, lightning rods, etc.)	1321				
j. **Total** (Sum of lines 1a through 1i) →	1300				
2. Electrical appliances, household	170	171			172
a. Radio and TV sets	1411				
b. Electrical household ranges and ovens	1412				
c. Refrigerators and freezers, household	1413				
d. Household laundry equipment	1414				
e. Vacuum cleaners and sewing machines, household	1415				
f. Room air conditioners	1416				
g. Other electric household appliances (Include fans, dishwashers, etc.)	1417				
h. **Total** (Sum of lines 2a through 2g) →	1400				
3. Electronic parts and equipment					
a. Electron tubes, receiving and transmitting (Include cathode ray TV picture tubes)	1511				
b. Intercommunication equipment	1512				
c. Public address equipment	1513				
d. Semiconductors, transistors, diodes, rectifiers, and other semiconductor devices (solar cells, zener diodes, etc.)	1514				
e. Other electronic parts and equipment	1515				
	170	171			172
f. **Total** (Sum of lines 3a through 3e) →	1500				

Description	Census use only	Estimated sales during 1977 Mil.	Thou.	Dol.	Percent
Other commodity lines	170	171			172
4. Automotive parts and supplies	0200				
5. Household and lawn furniture	0400				
6. Household china, glassware, and crockery	0500				
7. Linens, domestics, draperies, and shades	0520				
8. Floor coverings	0540				
9. Other home furnishings	0560				
10. Plywood, millwork	0650				
11. Sporting and recreational goods and supplies	0800				
12. Toys, hobby goods and supplies	0900				
13. Photographic equipment and supplies	1000				
14. Hardware (Include power hand tools)	1600				
15. Plumbing and heating equipment and supplies	1700				
16. Warm air heating and air conditioning equipment and supplies	1800				
17. Refrigeration equipment and supplies	1900				
18. Restaurant and hotel equipment and supplies	2020				
19. Farm machinery and equipment	2200				
20. Garden, lawn machinery and equipment	2250				
21. Jewelry, watches, diamonds, and other precious stones (Include silverware)	170 2900	171			172
22. Other durable goods (Include phonograph records and pre-recorded tapes)	3030				
23. Art goods (Include gifts, novelties, and souvenirs)	5910				
24. Miscellaneous commodities – *Specify*					
a.	9800				
b.	9800				
c.	9800				
25. Rental receipts – *Specify*	9940				
26. Service receipts and labor charges (Include installed parts)					
a. Labor charges	9711				
b. Parts installed and repair work	9712				
c. Other service receipts	9713				
d. **Total** (Sum of lines 26a through 26c) →	9700				
27. **TOTAL SALES IN 1977** (Sum of lines 1 through 26 should equal the entry in item 5a) →	170 9990	171			172 100%

FORM CB-50F

Please continue on page 3 →

FORM CB-50F (5006)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 CENSUS OF DISTRIBUTIVE TRADES
ELECTRICAL GOODS

Please enter the 11-digit CENSUS FILE NUMBER as shown on this report *(See label on page 1)*

Item 11 – SALES BY CUSTOMER CLASSES

Report the approximate percentage of your 1977 sales (item 5a) to each of the customer classes listed.

Line a – Sales to laboratories, manufacturers of all types, service business, and other business concerns that normally buy for business use rather than for resale of the goods in the form purchased.

Line b – Sales to farmers for use in agricultural production.

Line c – Sales to builders and contractors for construction purposes, not for resale.

Line d – Sales to the Federal government (including the military, post exchanges, GSA, GPO, and similar Federal agencies) and to State and local governments. Include here only sales made by this establishment DIRECT to governmental agencies.

Line e – Sales to retailers of all types (retail chain organizations, independent stores, department stores, etc.) who normally buy for resale to home consumers. Sales to repair shops of all types.

Line f – Sales to organizations that normally purchase for resale at wholesale. Sales to suppliers of plumbing, electrical, farm, and office machinery and supplies. Sales through agents and brokers selling on your account.

Line h – Include sales made direct to buyers in foreign countries, or through their agents in this country. Include transfers, if any, to your own foreign branches. United States possessions should not be considered as foreign countries.

		Whole percents
a.	To institutional, industrial, commercial, and professional users *Report sales to repair shops on line e.*	141
b.	To farmers (for farm use)	142
c.	To builders	143
d.	To governmental bodies (Federal, State, and local governments)	144
e.	To retailers and repair shops	145
f.	To wholesale establishments	146
g.	To household consumers and individual users	147
h.	Export sales	148
i.	**TOTAL (Sum of lines a through h should add to 100)** →	**100%**

Item 12 – EMPLOYMENT BY PRINCIPAL ACTIVITY

Report the approximate number of employees at this establishment according to their principal activity during the pay period including March 12, 1977 (total should equal item 6b(1)).

Line a – Include employees primarily engaged in selling services and merchandise from this establishment.

Line b – Include traveling salesmen, truck salesmen, etc.

Line c – Include employees primarily engaged in office and clerical work for this establishment. (See instruction for line e.)

Line d – Include employees primarily engaged in warehousing activities for this establishment. (See instruction for line e.)

Line e – Central administrative – Employees primarily engaged in various management, accounting, clerical, warehousing, etc., services for **other** establishments of your company. Include corporate officers unless primarily engaged in sales activities.

		Number of employees
a.	Inside selling	130
b.	Outside selling	131
c.	Office and clerical	132
d.	Warehousing	133
e.	Administrative	134
f.	Manufacturing	135
g.	Other – *Specify*	136
h.	**TOTAL (Sum of lines a through g should equal entry in item 6b(1))** →	137

Item 13 – WAREHOUSE, STOCKROOM, AND OTHER INVENTORY STORAGE SPACE, DECEMBER 31,1977

Report occupiable floor space excluding space occupied by interior walls, permanent aisles, elevator shafts, stairways, offices, receiving and shipping platforms, etc.

a. **Did you have warehouse, stockroom, or other inventory storage space on December 31, 1977?** 149 — 1 YES – *Go to 13b*; 2 NO – *SKIP to item 15*

		Square feet		
		Mil.	Thou.	000
b.	Occupiable floor space (under-roof) – occupied and unoccupied – of this establishment	150		

Item 14 – Not applicable to this form

Item 15 – CREDIT SALES, RECEIVABLES, AND BAD DEBT LOSSES

a. **Did you have credit sales, receivables, or bad debt losses in 1977?** 155 — 1 YES – *Go to 15b*; 2 NO – *SKIP to item 16*

b. Approximately what percent of your 1977 sales were made on credit? 156 ____ %

		Mil	Thou.	Dol.
c.	Accounts and notes receivable, outstanding as of December 31, 1977	157		
d.	Bad debt losses, 1977	158		

Item 16 – TRUCKS, TRUCK TRACTORS, AND TRUCK TRAILERS OPERATED, MID-DECEMBER 1977

a. **Did this establishment operate any trucks, truck tractors, or truck trailers mid-December 1977?** 160 — 1 YES – *Go to 16b*; 2 NO – *SKIP to item 17*

b. Number and type of vehicles operated mid-December 1977	TOTAL	Owned	Rented or leased (without drivers)
(1) Trucks (except tractor trailer)	161	162	163
(2) Truck tractors	164	165	166
(3) Semi-trailers and full-trailers	167	168	169

Remarks – *Please use this space for any explanation that may be essential in understanding your reported data.*

Item 17 – CERTIFICATION

Census use only	18a. YES NO	18b. YES NO	19a. YES NO	19b. Number 079	Not returned	Blank

Name of person to contact regarding this report

Telephone: Area code | Number | Extension

Address – *Number and street*

City | State | ZIP code

This report is substantially accurate and has been prepared in accordance with instructions.

Period covered → From: Mo. Day Year To: Mo. Day Year

Signature of authorized person

Title | Date

O.M.B. No. 41-R2349: Approval Expires November 30, 1978

FORM MA-171 (11-25-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

DEPARTMENT OF DEFENSE-OWNED AND OPERATED ESTABLISHMENTS PRIMARILY ENGAGED IN MANUFACTURING AND ASSEMBLY, AND/OR RESEARCH AND DEVELOPMENT – 1977

(Includes shipyards)

(Supplement to the Annual Survey of Manufactures, Census Form MA-100)

INSTRUCTIONS – This report is to be prepared by those Department of Defense establishments whose primary activities are manufacture and assembly and/or research and development. All shipyards are included.

The information requested is based upon reports now regularly prepared by most such establishments.

NOTICE – Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

(Please correct if any error in name and address, including ZIP code)

PLEASE RETURN THIS COPY

ITEM 1 – NAME AND PHYSICAL LOCATION OF ESTABLISHMENT ON DECEMBER 31, 1977

a. Name of establishment

Your answers to parts b, c, d, e, and f of this item should relate to the ACTUAL PHYSICAL LOCATION of this establishment which may be different from the mailing address.

b. Street and number of establishment location*

*If establishment location cannot be described by street and number, give name and number, if any, of road or highway and sufficient information to locate establishment, e.g., Rt. 25, 3 miles south of Charlesville.

c. Type and name of place in which located – *Mark (X) first applicable type and enter name of place.*

Type	Name of place
☐ City	
☐ Village or borough	
☐ Town	
☐ Township	
☐ Other – Specify	

d. Is this establishment physically located within the legal boundaries of the place named in "c"?

☐ Yes ☐ No

e. County in which located

f. State | **ZIP code**

g. Telephone number of establishment *(Include area code)*

ITEM 2 – NATURE OF ACTIVITY

Describe briefly the kind of activity of this establishment. If a manufacturing plant, list the three most important products.

ITEM 3 EMPLOYMENT PAYROLLS IN CALENDAR YEAR 1977

(Civilian employees only)

Class of employee	Item code	Number of civilian employees in 1977: At end of quarter (As reported on Civil Service Form SF-113-A**) March (A)	June (B)	September (C)	December (D)	Sum of columns A, B, C, and D (E)	Average number of employees (Col. E divided by 4) (F)	Total wages and salaries of civilian employees (Thousands of dollars) (G)
a. Wage Board employees	41							$
b. All others	42							$
c. TOTAL CIVILIAN EMPLOYEES → (Sum of lines a and b)	49							$

** The number of Wage Board employees (line a) should be the same as reported on line 5 of SF-113-A. The total (line c) should be the same as reported on line 1 of SF-113-A.

ITEM 4 MAN-DAYS OF WAGE BOARD EMPLOYEES BY CALENDAR QUARTER 1977

Enter the total number of man-days of Wage Board employees for each calendar quarter of 1977. Do not include days paid for vacations, holidays, or sick leave.

Item code	1977 Quarterly period	Man-days (Thousands) (A)	Estimated number of man-hours*** (Thousands) (B)
51	a. January through March		
52	b. April through June		
53	c. July through September		
54	d. October through December		
59	e. TOTAL, 1977 → (Sum of lines a, b, c, and d)		

*** Obtain figure for column (B) by multiplying column (A) by average number of hours per day per Wage Board employee in this establishment.

Please continue on page 2

ITEM 5 BILLINGS BY THIS ESTABLISHMENT DURING CALENDAR YEAR 1977

Enter below the specified classes of billings of this establishment for calendar year 1977

Billings for products and services (including progress billings)	Item code	Value (Thousands of dollars)
Manufacture and assembly	61	$
Construction and conversion	62	
Overhaul, repair, and renovation	63	
Alteration and modification	64	
Research and development	65	
Other billings	66	
Total billings for products and services	67	
Increase or decrease in unbilled costs of work in progress	68	
TOTAL EARNED REVENUE →	69	

ITEM 6 COSTS DURING CALENDAR YEAR 1977

Types of costs incurred	Item code	Cost (Thousands of dollars)
Materials, supplies, and parts used	71	$
Wages and salaries (same as item 3, code 49, col. G)	72	
Contractual services and other costs	73	
TOTAL COSTS INCURRED →	79	
VALUE ADDED (Census use only)	81	

ITEM 7 CHECKS TO ASSURE A COMPLETE AND ACCURATE REPORT

(Please complete this item after you have answered all items on this report.)

The Census Bureau reviews your report for omissions, inconsistencies, and unusual ratios. To save you future correspondence about these problems, please make the following checks before returning your report:

a. Review this report carefully to see that no items are omitted.
b. Calculate and enter the four "reasonableness" checks (described below), then review the resulting figures.
c. Correct your report for any errors you find; explain unusual figures in "Remarks" section.

"Reasonableness" checks	Calculation required for each check	Resulting figures for 1977
(1) Average hourly wages per Wage Board employee	Item code 41, column G (Wages paid Wage Board employees) ÷ item code 59, column B (Total estimated work-hours)	$
(2) Work days per year per Wage Board employee	Item code 59, column A (Wage Board work-days in thousands) × 1,000 ÷ item code 41, column F (Average number of Wage Board employees)	_____ Work-days
(3) Wages and salaries per dollar of earned revenue	Item code 72, (Wages and salaries of civilian employees) ÷ item code 69 (Total earned revenue)	$

(4) Is the total earned revenue (item code 69, total) greater than total costs incurred (item code 79, total)? . . . . . ☐ Yes ☐ No – *If "No," please explain in "Remarks" section.*

ITEM 8 REMARKS PERTAINING TO THIS REPORT

PERIOD OF REPORT

This report covers the period from _____ to _____

ITEM 9

Name of person to be contracted regarding this report	Address – *Number and street, city, State, ZIP code*	Telephone – *Area code, number, extension*

ITEM 10

CERTIFICATION – This report is substantially accurate and has been prepared in accordance with instructions.

Name of establishment	Address – *Number and street, city, State, ZIP code*	
Signature of authorized official	Title	Date

FORM MA-[illegible]21 (11-25-77)

DUE DATE: 30 days after receipt

Form Approved: O.M.B. No. 41-S77041

FORM MC-D4
(6-7-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

REPORT FROM PENAL INSTITUTIONS

(Please correct any error in name or address including ZIP code)

Please complete this form and RETURN TO ➡ **BUREAU OF THE CENSUS
Industry Division
Washington, D.C. 20233**

YOUR FILE COPY

PRODUCTS MADE IN THIS ESTABLISHMENT DURING 1977

INSTRUCTIONS FOR TOTAL PRODUCTION

Column (D) — Quantity — Report where appropriate the quantity of all products you made in this institution during 1977. Include products produced for use within the institution and products transferred to other branches of your government.

Column (E) — Value — Report at approximate market value all products, either used within the institution or transferred to other governmental units.

Line No.	Product (A)	Unit of measure (B)	Total production: Quantity (D)	Total production: Value *(Thousands of dollars)* (E)	Census product code (J)
1	Meat and meat products			$	201
2	Canned foods				203
3	Coffee and tea				209
4	Tobacco, chewing and smoking				213
5	Blankets				221
6	Woven fabrics	1,000 lbs.			223
7	Cordage and twine	Thousand linear yards			229
8	Apparel and clothing, including uniforms, coats, etc.				230
9	Sheets and pillowcases				232
10	Canvas specialties				239
11	Mattresses				251
12	Wooden furniture				253
13	Printing and binding				275
14	Soaps				284
15	Paints				285
16	Shoes	Pairs			314
17	Brick — Clay	Thousand brick			325
18	Brick — Concrete				326
19	Concrete blocks	Thousand block 8"×8"×16" equivalent			327
20	Motor vehicle license plates *(Count a set of front and rear plates as two plates)*	Number			346
21	Highway and road signs				399
22	Miscellaneous metal products				349
23	Brooms and brushes				399
24	Prepared animal feeds				204
25	All other products — *Specify kind and unit of measure*				
26					
27					
28					
29					
30	TOTAL *(Sum of lines 1–29)* ➡			$	

Remarks — *Please use this space for any explanation that may be essential in understanding your reported data.*

CERTIFICATION

This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report	Telephone: Area code	Number	Extension

Period covered → From: *(Mo., day, Yr.)* To: *(Mo., day, Yr.)*

Address — *Number and street*

Signature of authorized person

City	State	ZIP code	Title	Date

APPENDIX E. Authority for Census: Title 13, United States Code

COLLECTION AND PUBLICATION: Five-year periods (131)

The Secretary shall take, compile, and publish censuses of manufactures, of mineral industries, and of other businesses . . . in the year 1964, then in the year 1968, and every fifth year thereafter, and each such census shall relate to the year immediately preceding the taking thereof.

Geographic scope of censuses (191a)

(a) Each of the censuses authorized by this chapter shall include each State, the District of Columbia, the Virgin Islands, Guam, the Commonwealth of the Northern Mariana Islands, and the Commonwealth of Puerto Rico, and as may be determined by the Secretary, such other possessions and areas over which the United States exercises jurisdiction, control, or sovereignty. Inclusion of the other areas over which the United States exercises jurisdiction or control shall be subject to the concurrence of the Secretary of State.

Wrongful Disclosure of Information (214)

Whoever, being or having been an employee or staff member referred to in subchapter II of chapter I of this title, having taken and subscribed the oath of office, or having sworn to observe the limitations imposed by section 9 of this title, publishes or communicates any information, the disclosure of which is prohibited under the provisions of section 9 of this title, and which comes into his possession by reason of his being employed (or otherwise providing services) under the provisions of this title, shall be fined not more than $5,000 or imprisoned not more than 5 years, or both.

FAILURE TO ANSWER QUESTIONS AFFECTING COMPANIES, BUSINESSES, RELIGIOUS BODIES, AND OTHER ORGANIZATIONS: FALSE ANSWERS (224)

Whoever, being the owner, official, agent, person in charge, or assistant to the person in charge, of any company, business, institution, establishment, religious body, or organization of any nature whatsoever, neglects or refuses, when requested by the Secretary or other authorized officer or employee of the Department of Commerce or bureau or agency thereof, to answer completely and correctly to the best of his knowledge all questions relating to his company, business, institution, establishment, religious body, or other organization, or to records or statistics in his official custody, contained on any census or other schedule or questionnaire prepared and submitted to him under the authority of this title, shall be fined not more than $500; and if he willfully gives a false answer to any such question, he shall be fined not more than $10,000.

APPENDIX F. Standard Consolidated Statistical Areas and Standard Metropolitan Statistical Areas

(Titles and definitions of the SCSA's and the SMSA's in the United States established by the Department of Commerce, Office of Federal Statistical Policy and Standards, as of December 1977)

Standard Consolidated Statistical Areas

Boston-Lawrence-Lowell, Mass.-N.H.	Consists of Boston, Mass., SMSA; Lawrence-Haverhill, Mass.-N.H., SMSA; Lowell, Mass.-N.H., SMSA; and Brockton, Mass., SMSA
Chicago-Gary, Ill.-Ind.[1]	Consists of Chicago, Ill., SMSA, and Gary-Hammond-East Chicago, Ind., SMSA
Cincinnati-Hamilton, Ohio-Ky.-Ind.	Consists of Cincinnati, Ohio-Ky.-Ind., SMSA, and Hamilton-Middletown, Ohio, SMSA
Cleveland-Akron-Lorain, Ohio	Consists of Cleveland, Ohio, SMSA; Akron, Ohio, SMSA; and Lorain-Elyria, Ohio, SMSA
Detroit-Ann Arbor, Mich.	Consists of Detroit, Mich., SMSA, and Ann Arbor, Mich., SMSA
Houston-Galveston, Tex.	Consists of Houston, Tex., SMSA, and Galveston-Texas City, Tex., SMSA
Los Angeles-Long Beach-Anaheim, Calif	Consists of Los Angeles-Long Beach, Calif., SMSA; Anaheim-Santa Ana-Garden Grove, Calif., SMSA; Riverside-San Bernardino-Ontario, Calif., SMSA; and Oxnard-Simi Valley-Ventura, Calif., SMSA
Miami-Fort Lauderdale, Fla.	Consists of Miami, Fla., SMSA, and Fort Lauderdale-Hollywood, Fla., SMSA
Milwaukee-Racine, Wis.	Consists of Milwaukee, Wis., SMSA, and Racine, Wis., SMSA
New York-Newark-Jersey City, N.Y.-N.J.-Conn.[2]	Consists of New York, N.Y.-N.J., SMSA; Nassau-Suffolk, N.Y., SMSA, Newark, N.J., SMSA; Jersey City, N.J., SMSA; New Brunswick-Perth Amboy-Sayreville, N.J., SMSA; Paterson-Clifton-Passaic, N.J., SMSA; Long Branch-Asbury Park, N.J., SMSA; Stamford, Conn., SMSA; and Norwalk, Conn., SMSA
Philadelphia-Wilmington-Trenton, Pa.-Del.-N.J.-Md.	Consists of Philadelphia, Pa.-N.J., SMSA; Wilmington, Del.-N.J.-Md., SMSA; and Trenton, N.J., SMSA
San Francisco-Oakland-San Jose, Calif.	Consists of San Francisco-Oakland, Calif., SMSA; San Jose, Calif., SMSA, and Vallejo-Fairfield-Napa, Calif., SMSA
Seattle-Tacoma, Wash.	Consists of Seattle-Everett, Wash., SMSA, and Tacoma, Wash., SMSA

Standard Metropolitan Statistical Areas

Abilene, Tex.	Consists of Callahan, Jones, and Taylor Counties, Tex.
Akron, Ohio	Consists of Portage and Summit Counties, Ohio
Albany, Ga.	Consists of Dougherty and Lee Counties, Ga.
Albany-Schenectady-Troy, N.Y.	Consists of Albany, Montgomery, Rensselaer, Saratoga, and Schenectady Counties, N.Y.
Albuquerque, N. Mex.	Consists of Bernalillo and Sandoval Counties, N. Mex.
Alexandria, La.	Consists of Grant and Rapides Parishes, La.
Allentown-Bethlehem-Easton, Pa.-N.J.	Consists of Carbon, Lehigh, and Northampton Counties, Pa.; and Warren County, N.J.
Altoona, Pa.	Coextensive with Blair County, Pa.
Amarillo, Tex.	Consists of Potter and Randall Counties, Tex.
Anaheim-Santa Ana-Garden Grove, Calif.	Coextensive with Orange County, Calif.
Anchorage, Alaska	Coextensive with Anchorage Division, Alaska
Anderson, Ind.	Coextensive with Madison County, Ind.
Ann Arbor, Mich.	Coextensive with Washtenaw County, Mich.
Anniston, Ala.[3]	Coextensive with Calhoun County, Ala.
Appleton-Oshkosh, Wis.	Consists of Calumet, Outagamie, and Winnebago Counties, Wis.
Asheville, N.C.	Consists of Buncombe and Madison Counties, N.C.
Atlanta, Ga.	Consists of Butts, Cherokee, Clayton, Cobb, De Kalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale, and Walton Counties, Ga.

See footnotes at end of appendix.

SMSA'S—Con.

Atlantic City, N.J.	Coextensive with Atlantic County, N.J.
Augusta, Ga.-S.C.	Consists of Columbia and Richmond Counties, Ga., and Aiken County, S.C.
Austin, Tex.[4]	Consists of Hays, Travis, and Williamson Counties, Tex.
Bakersfield, Calif.	Coextensive with Kern County, Calif.
Baltimore, Md.	Consists of Baltimore[5] city and Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties, Md.
Baton Rouge, La.	Consists of Ascension, East Baton Rouge, Livingston, and West Baton Rouge Parishes, La.
Battle Creek, Mich.	Consists of Barry and Calhoun Counties, Mich.
Bay City, Mich.	Coextensive with Bay County, Mich.
Beaumont-Port Arthur-Orange, Tex.	Consists of Hardin, Jefferson, and Orange Counties, Tex.
Billings, Mont.	Coextensive with Yellowstone County, Mont.
Biloxi-Gulfport, Miss.	Consists of Hancock, Harrison, and Stone Counties, Miss.
Binghamton, N.Y.-Pa.	Consists of Broome and Tioga Counties, N.Y., and Susquehanna County, Pa.
Birmingham, Ala.	Consists of Jefferson, St. Clair, Shelby, and Walker Counties, Ala.
Bloomington, Ind.[3]	Coextensive with Monroe County, Ind.
Bloomington-Normal, Ill.	Coextensive with McLean County, Ill.
Boise City, Idaho	Coextensive with Ada County, Idaho
Boston, Mass.	Consists of Beverly, Lynn, Peabody, and Salem cities, and Boxford, Danvers, Hamilton, Lynnfield, Manchester, Marblehead, Middleton, Nahant, Saugus, Swampscott, Topsfield, and Wenham towns in Essex County; Cambridge, Everett, Malden, Medford, Melrose, Newton, Somerville, Waltham, and Woburn cities, and Acton, Arlington, Ashland, Bedford, Belmont, Boxborough, Burlington, Carlisle, Concord, Framingham, Holliston, Lexington, Lincoln, Natick, North Reading, Reading, Sherborn, Stoneham, Sudbury, Wakefield, Watertown, Wayland, Weston, Wilmington, and Winchester towns in Middlesex County; Quincy city, and Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxborough, Franklin, Holbrook, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Randolph, Sharon, Stoughton, Walpole, Wellesley, Westwood, Weymouth, and Wrentham towns in Norfolk County; Abington, Duxbury, Hanover, Hanson, Hingham, Hull, Kingston, Marshfield, Norwell, Pembroke, Rockland, Scituate towns in Plymouth County; and Boston, Chelsea, and Revere cities, and Winthrop town in Suffolk County, Mass.
Bradenton, Fla.[3]	Coextensive with Manatee County, Fla.
Bridgeport, Conn.	Consists of Bridgeport and Shelton cities, and Easton, Fairfield, Monroe, Stratford, and Trumbull towns in Fairfield County; and Derby and Milford cities in New Haven County, Conn.
Bristol, Conn.	Consists of Bristol city and Burlington town in Hartford County, and Plymouth town in Litchfield County, Conn.
Brockton, Mass.	Consists of Easton town in Bristol County; Avon town in Norfolk County; and Brockton city, and Bridgewater, East Bridgewater, Halifax, West Bridgewater, and Whitman towns in Plymouth County, Mass.
Brownsville-Harlingen-San Benito, Tex.	Coextensive with Cameron County, Tex.
Bryan-College Station, Tex.	Coextensive with Brazos County, Tex.
Buffalo, N.Y.	Consists of Erie and Niagara Counties, N.Y.
Burlington, N.C.	Coextensive with Alamance County, N.C.
Canton, Ohio	Consists of Carroll and Stark Counties, Ohio
Cedar Rapids, Iowa	Coextensive with Linn County, Iowa
Champaign-Urbana-Rantoul, Ill.	Coextensive with Champaign County, Ill.
Charleston-North Charleston, S.C.[6]	Consists of Berkeley, Charleston, and Dorchester Counties, S.C.
Charleston, W. Va.	Consists of Kanawha and Putnam Counties, W. Va.
Charlotte-Gastonia, N.C.	Consists of Gaston, Mecklenburg, and Union Counties, N.C.

See footnotes at end of appendix.

SMSA'S—Con.

Chattanooga, Tenn.-Ga.	Consists of Hamilton, Marion, and Sequatchie Counties, Tenn.; and Catoosa, Dade, and Walker Counties, Ga.
Chicago, Ill.	Consists of Cook, Du Page, Kane, Lake, McHenry, and Will Counties, Ill.
Cincinnati, Ohio-Ky.-Ind.	Consists of Clermont, Hamilton, and Warren Counties, Ohio; Boone, Campbell, and Kenton Counties, Ky.; and Dearborn County, Ind.
Clarksville-Hopkinsville, Tenn.-Ky.[3]	Consists of Montgomery County, Tenn. and Christian County, Ky.
Cleveland, Ohio	Consists of Cuyahoga, Geauga, Lake, and Medina Counties, Ohio
Colorado Springs, Colo.	Consists of El Paso and Teller Counties, Colo.
Columbia, Mo.	Coextensive with Boone County, Mo.
Columbia, S.C.	Consists of Lexington and Richland Counties, S.C.
Columbus, Ga.-Ala.	Consists of Chattahoochee County and Columbus[5] (consolidated government), Ga., and Russell County, Ala.
Columbus, Ohio	Consists of Delaware, Fairfield, Franklin, Madison, and Pickaway Counties, Ohio
Corpus Christi, Tex.	Consists of Nueces and San Patricio Counties, Tex.
Dallas-Fort Worth, Tex.	Consists of Collin, Dallas, Denton, Ellis, Hood, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties, Tex.
Danbury, Conn.	Consists of Danbury city and Bethel, Brookfield, New Fairfield, Newtown, and Redding towns in Fairfield County; and New Milford town in Litchfield County, Conn.
Davenport-Rock Island-Moline, Iowa-Ill.	Consists of Scott County, Iowa and Henry and Rock Island Counties, Ill.
Dayton, Ohio	Consists of Greene, Miami, Montgomery, and Preble Counties, Ohio
Daytona Beach, Fla.	Coextensive with Volusia County, Fla.
Decatur, Ill.	Coextensive with Macon County, Ill.
Denver-Boulder, Colo.	Consists of Adams, Arapahoe, Boulder, Denver, Douglas, Gilpin, and Jefferson Counties, Colo.
Des Moines, Iowa	Consists of Polk and Warren Counties, Iowa
Detroit, Mich.	Consists of Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne Counties, Mich.
Dubuque, Iowa	Coextensive with Dubuque County, Iowa
Duluth-Superior, Minn.-Wis.	Consists of St. Louis County, Minn. and Douglas County, Wis.
Eau Claire, Wis.[3]	Consists of Chippewa and Eau Claire Counties, Wis.
El Paso, Tex.	Coextensive with El Paso County, Tex.
Elmira, N.Y.	Coextensive with Chemung County, N.Y.
Erie, Pa.	Coextensive with Erie County, Pa.
Eugene-Springfield, Oreg.	Coextensive with Lane County, Oreg.
Evansville, Ind.-Ky.	Consists of Gibson, Posey, Vanderburgh, and Warrick Counties, Ind. and Henderson County, Ky.
Fall River, Mass.-R.I.	Consists of Fall River city and Dighton, Somerset, Swansea, and Westport towns in Bristol County, Mass.; and Little Compton, Portsmouth, and Tiverton towns in Newport County, R.I.
Fargo-Moorhead, N. Dak.-Minn.	Consists of Cass County, N. Dak. and Clay County, Minn.
Fayetteville, N.C.	Coextensive with Cumberland County, N.C.
Fayetteville-Springdale, Ark.	Consists of Benton and Washington Counties, Ark.
Fitchburg-Leominster, Mass.	Consists of Shirley and Townsend towns in Middlesex County, and Fitchburg and Leominster cities and Lunenburg and Westminster towns in Worcester County, Mass.
Flint, Mich.	Consists of Genesee and Shiawassee Counties, Mich.
Florence, Ala.	Consists of Colbert and Lauderdale Counties, Ala.
Fort Collins, Colo.[3]	Coextensive with Larimer County, Colo.
Fort Lauderdale-Hollywood, Fla.	Coextensive with Broward County, Fla.
Fort Myers, Fla.	Coextensive with Lee County, Fla.
Fort Smith, Ark.-Okla.	Consists of Crawford and Sebastian Counties, Ark. and Le Flore and Sequoyah Counties, Okla.

See footnotes at end of appendix.

SMSA'S—Con.

Fort Wayne, Ind.	Consists of Adams, Allen, De Kalb, and Wells Counties, Ind.
Fresno, Calif.	Coextensive with Fresno County, Calif.
Gadsden, Ala.	Coextensive with Etowah County, Ala.
Gainesville, Fla.	Coextensive with Alachua County, Fla.
Galveston-Texas City, Tex.	Coextensive with Galveston County, Tex.
Gary-Hammond-East Chicago, Ind.	Consists of Lake and Porter Counties, Ind.
Grand Forks, N. Dak.-Minn.[3]	Consists of Grand Forks County, N. Dak. and Polk County, Minn.
Grand Rapids, Mich.	Consists of Kent and Ottawa Counties, Mich.
Great Falls, Mont.	Coextensive with Cascade County, Mont.
Greeley, Colo.[3]	Coextensive with Weld County, Colo.
Green Bay, Wis.	Coextensive with Brown County, Wis.
Greensboro—Winston-Salem—High Point, N.C.	Consists of Davidson, Forsyth, Guilford, Randolph, Stokes, and Yadkin Counties, N.C.
Greenville-Spartanburg, S.C.	Consists of Greenville, Pickens, and Spartanburg Counties, S.C.
Hamilton-Middletown, Ohio	Coextensive with Butler County, Ohio
Harrisburg, Pa.	Consists of Cumberland, Dauphin, and Perry Counties, Pa.
Hartford, Conn.	Consists of Hartford city and Avon, Bloomfield, Canton, East Granby, East Hartford, East Windsor, Enfield, Farmington, Glastonbury, Granby, Manchester, Marlborough, Newington, Rocky Hill, Simsbury, South Windsor, Suffield, West Hartford, Wethersfield, Windsor, and Windsor Locks towns in Hartford County; New Hartford town in Litchfield County; Cromwell, East Hampton, and Portland towns in Middlesex County; Colchester town in New London County; and Andover, Bolton, Columbia, Coventry, Ellington, Hebron, Stafford, Tolland, Vernon, and Willington towns in Tolland County, Conn.
Honolulu, Hawaii	Coextensive with Honolulu County, Hawaii
Houston, Tex.	Consists of Brazoria, Fort Bend, Harris, Liberty, Montgomery, and Waller Counties, Tex.
Huntington-Ashland, W. Va.-Ky.-Ohio	Consists of Cabell and Wayne Counties, W. Va.; Boyd and Greenup Counties, Ky.; and Lawrence County, Ohio
Huntsville, Ala.	Consists of Limestone, Madison, and Marshall Counties, Ala.
Indianapolis, Ind.	Consists of Boone, Hamilton, Hancock, Hendricks, Johnson, Marion, Morgan, and Shelby Counties, Ind.
Jackson, Mich.	Coextensive with Jackson County, Mich.
Jackson, Miss.	Consists of Hinds and Rankin Counties, Miss.
Jacksonville, Fla.	Consists of Baker, Clay, Duval, Nassau, and St. Johns Counties, Fla.
Jersey City, N.J.	Coextensive with Hudson County, N.J.
Johnson City-Kingsport-Bristol, Tenn.-Va.[7]	Consists of Carter, Hawkins, Sullivan, Unicoi, and Washington Counties, Tenn., and Bristol[5] city and Scott and Washington Counties, Va.
Johnstown, Pa.	Consists of Cambria and Somerset Counties, Pa.
Kalamazoo-Portage, Mich.	Consists of Kalamazoo and Van Buren Counties, Mich.
Kankakee, Ill.[3]	Coextensive with Kankakee County, Ill.
Kansas City, Mo.-Kans.	Consists of Cass, Clay, Jackson, Platte, and Ray Counties, Mo., and Johnson and Wyandotte Counties, Kans.
Kenosha, Wis.	Coextensive with Kenosha County, Wis.
Killeen-Temple, Tex.	Consists of Bell and Coryell Counties, Tex.
Knoxville, Tenn.	Consists of Anderson, Blount, Knox, and Union Counties, Tenn.
Kokomo, Ind.[3]	Consists of Howard and Tipton Counties, Ind.
La Crosse, Wis.	Coextensive with La Crosse County, Wis.
Lafayette, La.	Coextensive with Lafayette Parish, La.
Lafayette-West Lafayette, Ind.	Coextensive with Tippecanoe County, Ind.
Lake Charles, La.	Coextensive with Calcasieu Parish, La.

See footnotes at end of appendix.

SMSA'S—Con.

Lakeland-Winter Haven, Fla.	Coextensive with Polk County, Fla.
Lancaster, Pa.	Coextensive with Lancaster County, Pa.
Lansing-East Lansing, Mich.	Consists of Clinton, Eaton, Ingham, and Ionia Counties, Mich.
Laredo, Tex.	Coextensive with Webb County, Tex.
Las Vegas, Nev.	Coextensive with Clark County, Nev.
Lawrence, Kans.[5]	Coextensive with Douglas County, Kans.
Lawrence-Haverhill, Mass.-N.H.	Consists of Haverhill and Lawrence cities and Amesbury, Andover, Georgetown, Groveland, Merrimac, Methuen, North Andover, Salisbury, and West Newbury towns in Essex County, Mass. and Atkinson, Hampstead, Kingston, Newton, Plaistow, Salem, and Windham towns in Rockingham County, N.H.
Lawton, Okla.	Coextensive with Comanche County, Okla.
Lewiston-Auburn, Maine	Consists of Auburn and Lewiston cities and Lisbon town in Androscoggin County, Maine
Lexington-Fayette, Ky.[8]	Consists of Bourbon, Clark, Fayette, Jessamine, Scott, and Woodford Counties, Ky.
Lima, Ohio	Consists of Allen, Auglaize, Putnam, and Van Wert Counties, Ohio
Lincoln, Nebr.	Coextensive with Lancaster County, Nebr.
Little Rock-North Little Rock, Ark.	Consists of Pulaski and Saline Counties, Ark.
Long Branch-Asbury Park, N.J.	Coextensive with Monmouth County, N.J.
Longview, Tex.[3]	Consists of Gregg and Harrison Counties, Tex.
Lorain-Elyria, Ohio	Coextensive with Lorain County, Ohio
Los Angeles-Long Beach, Calif.	Coextensive with Los Angeles County, Calif.
Louisville, Ky-Ind.	Consists of Bullitt, Jefferson, and Oldham Counties, Ky. and Clark and Floyd Counties, Ind.
Lowell, Mass.-N.H.	Consists of Lowell city and Billerica, Chelmsford, Dracut, Tewksbury, Tyngsborough, and Westford towns in Middlesex County, Mass.; and Pelham town in Hillsborough County, N.H.
Lubbock, Tex.	Coextensive with Lubbock County, Tex.
Lynchburg, Va.	Consists of Lynchburg[5] city and Amherst, Appomattox, and Campbell Counties, Va.
Macon, Ga.	Consists of Bibb, Houston, Jones, and Twiggs Counties, Ga.
Madison, Wis.	Coextensive with Dane County, Wis.
Manchester, N.H.	Consists of Manchester city and Bedford and Goffstown towns in Hillsborough County; Allenstown, Hooksett, and Pembroke towns in Merrimack County; and Derry and Londonderry towns in Rockingham County, N.H.
Mansfield, Ohio	Coextensive with Richland County, Ohio
McAllen-Pharr-Edinburg, Tex.	Coextensive with Hidalgo County, Tex.
Melbourne-Titusville-Cocoa, Fla.	Coextensive with Brevard County, Fla.
Memphis, Tenn.-Ark.-Miss.	Consists of Shelby and Tipton Counties, Tenn.; Crittenden County, Ark.; and De Soto County, Miss.
Meriden, Conn.	Coextensive with Meriden city in New Haven County, Conn.
Miami, Fla.	Coextensive with Dade County, Fla.
Midland, Tex.	Coextensive with Midland County, Tex.
Milwaukee, Wis.	Consists of Milwaukee, Ozaukee, Washington, and Waukesha Counties, Wis.
Minneapolis-St. Paul, Minn.-Wis.	Consists of Anoka, Carver, Chisago, Dakota, Hennepin, Ramsey, Scott, Washington, and Wright Counties, Minn. and St. Croix County, Wis.
Mobile, Ala.	Consists of Baldwin and Mobile Counties, Ala.
Modesto, Calif.	Coextensive with Stanislaus County, Calif.
Monroe, La.	Coextensive with Ouachita Parish, La.
Montgomery, Ala.	Consists of Autauga, Elmore, and Montgomery Counties, Ala.
Muncie, Ind.	Coextensive with Delaware County, Ind.
Muskegon-North Shores-Muskegon Heights, Mich.[9]	Consists of Muskegon and Oceana Counties, Mich.

See footnotes at end of appendix.

SMSA'S—Con.

Nashua, N.H.	Consists of Nashua city and Amherst, Hudson, Merrimack, and Milford towns in Hillsborough County, N.H.
Nashville-Davidson, Tenn.	Consists of Cheatham, Davidson, Dickson, Robertson, Rutherford, Sumner, Williamson, and Wilson Counties, Tenn.
Nassau-Suffolk, N.Y.	Consists of Nassau and Suffolk Counties, N.Y.
New Bedford, Mass.	Consists of New Bedford city and Acushnet, Dartmouth, Fairhaven, and Freetown towns in Bristol County; and Lakeville, Marion, and Mattapoisett towns in Plymouth County, Mass.
New Britain, Conn.	Consists of New Britain city and Berlin, Plainville, and Southington towns in Hartford County, Conn.
New Brunswick-Perth Amboy-Sayreville, N.J.	Coextensive with Middlesex County, N.J.
New Haven-West Haven, Conn.[10]	Consists of Clinton town in Middlesex County; and New Haven and West Haven cities and Bethany, Branford, East Haven, Guilford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, and Woodbridge towns in New Haven County, Conn.
New London-Norwich, Conn.-R.I.	Consists of Old Saybrook town in Middlesex County; New London and Norwich cities and Bozrah, East Lyme, Griswold, Groton, Ledyard, Lisbon, Montville, Old Lyme, Preston, Sprague, Stonington, and Waterford towns in New London County, Conn.; and Hopkinton and Westerly towns in Washington County, R.I.
New Orleans, La.	Consists of Jefferson, Orleans, St. Bernard, and St. Tammany Parishes, La.
New York, N.Y.-N.J.	Consists of Bronx, Kings, New York, Putnam, Queens, Richmond, Rockland, and Westchester Counties, N.Y. and Bergen County, N.J.
Newark, N.J.	Consists of Essex, Morris, Somerset, and Union Counties, N.J.
Newport News-Hampton, Va.[11]	Consists of Hampton,[5] Newport News,[5] Poquoson,[5] and Williamsburg[5] cities and Gloucester, James City, and York Counties, Va.
Norfolk-Virginia Beach-Portsmouth, Va.-N.C.[12]	Consists of Chesapeake,[5] Norfolk,[5] Portsmouth,[5] Suffolk,[5] and Virginia Beach[5] cities, Va. and Currituck County, N.C.
Northeast Pennsylvania	Consists of Lackawanna, Luzerne, and Monroe Counties, Pa.
Norwalk, Conn.	Consists of Norwalk city and Weston, Westport, and Wilton towns in Fairfield County, Conn.
Odessa, Tex.	Coextensive with Ector County, Tex.
Oklahoma City, Okla.	Consists of Canadian, Cleveland, McClain, Oklahoma, and Pottawatomie Counties, Okla.
Omaha, Nebr.-Iowa	Consists of Douglas and Sarpy Counties, Nebr. and Pottawattamie County, Iowa
Orlando, Fla.	Consists of Orange, Osceola, and Seminole Counties, Fla.
Owensboro, Ky.	Coextensive with Daviess County, Ky.
Oxnard-Simi Valley-Ventura, Calif.	Coextensive with Ventura County, Calif.
Panama City, Fla.[3]	Coextensive with Bay County, Fla.
Parkersburg-Marietta, W. Va.-Ohio	Consists of Wirt and Wood Counties, W. Va. and Washington County, Ohio
Pascagoula-Moss Point, Miss.[3]	Coextensive with Jackson County, Miss.
Paterson-Clifton-Passaic, N.J.	Coextensive with Passaic County, N.J.
Pensacola, Fla.	Consists of Escambia and Santa Rosa Counties, Fla.
Peoria, Ill.	Consists of Peoria, Tazewell, and Woodford Counties, Ill.
Petersburg-Colonial Heights-Hopewell, Va.	Consists of Colonial Heights,[5] Hopewell,[5] and Petersburg[5] cities and Dinwiddie and Prince George Counties, Va.
Philadelphia, Pa.-N.J.	Consists of Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties, Pa.; and Burlington, Camden, and Gloucester Counties, N.J.
Phoenix, Ariz.	Coextensive with Maricopa County, Ariz.
Pine Bluff, Ark.	Coextensive with Jefferson County, Ark.
Pittsburgh, Pa.	Consists of Allegheny, Beaver, Washington, and Westmoreland Counties, Pa.
Pittsfield, Mass.	Consists of Pittsfield city and Adams, Cheshire, Dalton, Lanesborough, Lee, Lenox, and Stockbridge towns in Berkshire County, Mass.

See footnotes at end of appendix.

SMSA'S—Con.

Portland, Maine	Consists of Portland, South Portland, and Westbrook cities and Cape Elizabeth, Cumberland, Falmouth, Freeport, Gorham, Scarborough, Windham, and Yarmouth towns in Cumberland County; and Saco city and Old Orchard Beach town in York County, Maine
Portland, Oreg.-Wash.	Consists of Clackamas, Multnomah, and Washington Counties, Oreg. and Clark County, Wash.
Poughkeepsie, N.Y.	Coextensive with Dutchess County, N.Y.
Providence-Warwick-Pawtucket, R.I.-Mass.	Consists of Barrington, Bristol, and Warren towns in Bristol County; Warwick city and Coventry, East Greenwich, and West Warwick towns in Kent County; Jamestown town in Newport County; Central Falls, Cranston, East Providence, Pawtucket, Providence, and Woonsocket cities and Burrillville, Cumberland, Johnston, Lincoln, North Providence, North Smithfield, Scituate, and Smithfield towns in Providence County; and Narragansett, North Kingstown, and South Kingstown towns in Washington County, R.I.; Attleboro city and North Attleborough, Norton, Rehoboth, and Seekonk towns in Bristol County; Plainville town in Norfolk County; and Blackstone and Millville towns in Worcester County, Mass.
Provo-Orem, Utah	Coextensive with Utah County, Utah
Pueblo, Colo.	Coextensive with Pueblo County, Colo.
Racine, Wis.	Coextensive with Racine County, Wis.
Raleigh-Durham, N.C.	Consists of Durham, Orange, and Wake Counties, N.C.
Reading, Pa.	Coextensive with Berks County, Pa.
Reno, Nev.	Coextensive with Washoe County, Nev.
Richland-Kennewick, Wash.	Consists of Benton and Franklin Counties, Wash.
Richmond, Va.[13]	Consists of Richmond[5] city and Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, and Powhatan Counties, Va.
Riverside-San Bernardino-Ontario, Calif.	Consists of Riverside and San Bernardino Counties, Calif.
Roanoke, Va.	Consists of Roanoke[5] and Salem[5] cities and Botetourt, Craig, and Roanoke Counties, Va.
Rochester, Minn.	Coextensive with Olmsted County, Minn.
Rochester, N.Y.	Consists of Livingston, Monroe, Ontario, Orleans, and Wayne Counties, N.Y.
Rockford, Ill.	Consists of Boone and Winnebago Counties, Ill.
Sacramento, Calif.	Consists of Placer, Sacramento, and Yolo Counties, Calif.
Saginaw, Mich.	Coextensive with Saginaw County, Mich.
St. Cloud, Minn.	Consists of Benton, Sherburne, and Stearns Counties, Minn.
St. Joseph, Mo.	Consists of Andrew and Buchanan Counties, Mo.
St. Louis, Mo.-Ill.	Consists of St. Louis[5] city and Franklin, Jefferson, St. Charles, and St. Louis Counties, Mo.; and Clinton, Madison, Monroe, and St. Clair Counties, Ill.
Salem, Oreg.	Consists of Marion and Polk Counties, Oreg.
Salinas-Seaside-Monterey, Calif.	Coextensive with Monterey County, Calif.
Salt Lake City-Ogden, Utah	Consists of Davis, Salt Lake, Tooele, and Weber Counties, Utah
San Angelo, Tex.	Coextensive with Tom Green County, Tex.
San Antonio, Tex.	Consists of Bexar, Comal, and Guadalupe Counties, Tex.
San Diego, Calif.	Coextensive with San Diego County, Calif.
San Francisco-Oakland, Calif.	Consists of Alameda, Contra Costa, Marin, San Francisco, and San Mateo Counties, Calif.
San Jose, Calif.	Coextensive with Santa Clara County, Calif.
Santa Barbara-Santa Maria-Lompoc, Calif.	Coextensive with Santa Barbara County, Calif.
Santa Cruz, Calif.	Coextensive with Santa Cruz County, Calif
Santa Rosa, Calif.	Coextensive with Sonoma County, Calif.
Sarasota, Fla.	Coextensive with Sarasota County, Fla.
Savannah, Ga.	Consists of Bryan, Chatham, and Effingham Counties, Ga.
Seattle-Everett, Wash.	Consists of King and Snohomish Counties, Wash.

See footnotes at end of appendix.

SMSA'S—Con.

Sherman-Denison, Tex.	Coextensive with Grayson County, Tex.
Shreveport, La.	Consists of Bossier, Caddo, and Webster Parishes, La.
Sioux City, Iowa-Nebr.	Consists of Woodbury County, Iowa and Dakota County, Nebr.
Sioux Falls, S. Dak.	Coextensive with Minnehaha County, S. Dak.
South Bend, Ind.	Consists of Marshall and St. Joseph Counties, Ind.
Spokane, Wash.	Coextensive with Spokane County, Wash.
Springfield, Ill.	Consists of Menard and Sangamon Counties, Ill.
Springfield, Mo.	Consists of Christian and Greene Counties, Mo.
Springfield, Ohio	Consists of Champaign and Clark Counties, Ohio
Springfield-Chicopee-Holyoke, Mass.-Conn.	Consists of Chicopee, Holyoke, Springfield, and Westfield cities and Agawam, East Longmeadow, Hampden, Longmeadow, Ludlow, Monson, Palmer, Southwick, West Springfield, and Wilbraham towns in Hampden County; Northampton city and Belchertown, Easthampton, Granby, Hadley, Hatfield, Southampton, and South Hadley towns in Hampshire County; Warren town in Worcester County, Mass.; and Somers town in Tolland County, Conn.
Stamford, Conn.	Consists of Stamford city and Darien, Greenwich, and New Canaan towns in Fairfield County, Conn.
Steubenville-Weirton, Ohio-W. Va.	Consists of Jefferson County, Ohio and Brooke and Hancock Counties, W. Va.
Stockton, Calif.	Coextensive with San Joaquin County, Calif.
Syracuse, N.Y.	Consists of Madison, Onondaga, and Oswego Counties, N.Y.
Tacoma, Wash.	Coextensive with Pierce County, Wash.
Tallahassee, Fla.	Consists of Leon and Wakulla Counties, Fla.
Tampa-St. Petersburg, Fla.	Consists of Hillsborough, Pasco, and Pinellas Counties, Fla.
Terre Haute, Ind.	Consists of Clay, Sullivan, Vermillion, and Vigo Counties, Ind.
Texarkana, Tex.-Texarkana, Ark.	Consists of Bowie County, Tex. and Little River and Miller Counties, Ark.
Toledo, Ohio-Mich.	Consists of Fulton, Lucas, Ottawa, and Wood Counties, Ohio and Monroe County, Mich.
Topeka, Kans.	Consists of Jefferson, Osage, and Shawnee Counties, Kans.
Trenton, N.J.	Coextensive with Mercer County, N.J.
Tucson, Ariz.	Coextensive with Pima County, Ariz.
Tulsa, Okla.	Consists of Creek, Mayes, Osage, Rogers, Tulsa, and Wagoner Counties, Okla.
Tuscaloosa, Ala.	Coextensive with Tuscaloosa County, Ala.
Tyler, Tex.	Coextensive with Smith County, Tex.
Utica-Rome, N.Y.	Consists of Herkimer and Oneida Counties, N.Y.
Vallejo-Fairfield-Napa, Calif.	Consists of Napa and Solano Counties, Calif.
Vineland-Millville-Bridgeton, N.J.	Coextensive with Cumberland County, N.J.
Waco, Tex.	Coextensive with McLennan County, Tex.
Washington, D.C.-Md.-Va.[14]	Consists of District of Columbia; Charles, Montgomery, and Prince Georges Counties, Md; and Alexandria,[5] Fairfax,[5] Falls Church,[5] Manassas,[5] and Manassas Park[5] cities and Arlington, Fairfax, Loudoun, and Prince William Counties, Va.
Waterbury, Conn.	Consists of Thomaston, Watertown, and Woodbury towns in Litchfield County; and Waterbury city, Naugatuck borough, and Beacon Falls, Cheshire, Middlebury, Prospect, Southbury, and Wolcott towns in New Haven County, Conn.
Waterloo-Cedar Falls, Iowa	Coextensive with Black Hawk County, Iowa
West Palm Beach-Boca Raton, Fla.	Coextensive with Palm Beach County, Fla.
Wheeling, W. Va.-Ohio	Consists of Marshall and Ohio Counties, W. Va. and Belmont County, Ohio
Wichita, Kans.	Consists of Butler and Sedgwick Counties, Kans.
Wichita Falls, Tex.	Consists of Clay and Wichita Counties, Tex.
Williamsport, Pa.	Coextensive with Lycoming County, Pa.
Wilmington, Del.-N.J.-Md.	Consists of New Castle County, Del.; Salem County, N.J.; and Cecil County, Md.
Wilmington, N.C.	Consists of Brunswick and New Hanover Counties, N.C.

See footnotes at end of appendix.

SMSA'S—Con.

Worcester, Mass.	Consists of Worcester city and Auburn, Berlin, Boylston, Brookfield, Charlton, East Brookfield, Grafton, Holden, Leicester, Millbury, Northborough, Northbridge, North Brookfield, Oxford, Paxton, Shrewsbury, Spencer, Sterling, Sutton, Upton, Uxbridge, Webster, Westborough, and West Boylston towns in Worcester County, Mass.
Yakima, Wash.	Coextensive with Yakima County, Wash.
York, Pa.	Consists of Adams and York Counties, Pa.
Youngstown-Warren, Ohio	Consists of Mahoning and Trumbull Counties, Ohio

[1] Retitled from Chicago-Northeastern Indiana SCA since 1972 Economic Censuses; but no boundary change.
[2] Includes New York-Northeastern New Jersey SCA and Long Branch-Asbury Park, N.J., Stamford, Conn., and Norwalk, Conn., SMSA's added since 1972 Economic Censuses.
[3] Newly designated SMSA since 1972 Economic Censuses.
[4] Williamson County, Tex. added since 1972 Economic Censuses.
[5] Independent of any county and considered a county equivalent.
[6] Retitled from Charleston, S.C., SMSA since 1972 Economic Censuses.
[7] Retitled from Kingsport-Bristol, Tenn.-Va., SMSA and Carter, Unicorn, and Washington Counties, Tenn., added since 1972 Economic Censuses.
[8] Retitled from Lexington, Ky., SMSA since 1972 Economic Censuses.
[9] Retitled from Muskegon-Muskegon Heights, Mich., SMSA since 1972 Economic Censuses.
[10] Killingworth town in Middlesex County was deleted since 1972 Economic Censuses.
[11] Poquoson city was added since 1972 Economic Censuses.
[12] Nansemond city was deleted since 1972 Economic Censuses.
[13] New Kent County added since 1972 Economic Censuses.
[14] Manassas and Manassas Park cities added since 1972 Economic Censuses.

Abbreviations Used for State Names
(Alaska, Hawaii, Idaho, Iowa, Maine, Ohio and Utah are not abbreviated)

Ala.	Alabama	Ind.	Indiana	N.C.	North Carolina	R.I.	Rhode Island
Ariz.	Arizona	Kans.	Kansas	N. Dak.	North Dakota	S.C.	South Carolina
Ark.	Arkansas	Ky.	Kentucky	Nebr.	Nebraska	S. Dak.	South Dakota
Calif.	California	La.	Louisiana	Nev.	Nevada	Tenn.	Tennessee
Colo.	Colorado	Mass.	Massachusetts	N.H.	New Hampshire	Tex.	Texas
Conn.	Connecticut	Md.	Maryland	N.J.	New Jersey	Va.	Virginia
D.C.	District of Columbia	Mich.	Michigan	N. Mex.	New Mexico	Vt.	Vermont
Del.	Delaware	Minn.	Minnesota	N.Y.	New York	Wash.	Washington
Fla.	Florida	Miss.	Mississippi	Okla.	Oklahoma	Wis.	Wisconsin
Ga.	Georgia	Mo.	Missouri	Oreg.	Oregon	W. Va.	West Virginia
Ill.	Illinois	Mont.	Montana	Pa.	Pennsylvania	Wyo.	Wyoming

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